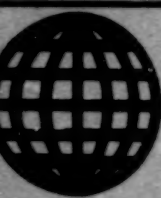


PRS-TTP-90-013  
8 SEPTEMBER 1990



**FOREIGN  
BROADCAST  
INFORMATION  
SERVICE**

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# ***JPRS Report***

## **Telecommunications**

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# Telecommunications

JPRS-TTP-90-013

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28 September 1990

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## INTER-AFRICAN AFFAIRS

### 12 Nations To Join 'Afrovision'

90WT0148A London AFRICA ANALYSIS in English  
3 Aug 90 p 2

[Text] Dakar—Twelve African countries are to start exchanging television news stories by satellite. Afrovision, as the experiment will be called, will run for three months in early 1991, and will be co-ordinated from Algiers.

The breakthrough on Afrovision comes at a time when the future of URTNA, the pan-African radio and television organisation to which the 12 countries belong, is in doubt. A decision is expected in late October on a recommendation made by a special committee set up to examine URTNA, whose headquarters are in Dakar. The organisation has been dogged by the failure of many member countries to pay dues.

But in the view of some Western experts the organisation could, if properly organised, be of great use to broadcasting in Africa by acting as 'one voice' in the negotiations with the rest of the world on key matters such as broadcasting frequencies and rights to use programming. Otherwise, there is a danger that the continent could fragment between English-speaking, Francophone, Portuguese-speaking and Arab-oriented broadcasters.

URTNA is based in four separate locations across Africa—Dakar, Bamako, Ouagadougou and Nairobi—corresponding to four separate functions—administration and archives; technical support; training; and programme exchange. But only about 40 percent of the dues payable by individual African countries have actually been paid in recent years. The exception is this year, when URTNA acted as the administrative mechanism to distribute the World Cup football transmissions throughout Africa, with the technical facilities being provided by the European Broadcasting Union.

Normally, the URTNA budget is drawn up on the basis of everyone paying their dues, but the programme exchange is not well supported by national TV and radio organisations. German support funds for the programme exchange are also about to be withdrawn.

### Kenya Hosts Preferential Trade Area Meeting

EA1909115090 Nairobi KNA in English 1412 GMT  
17 Sep 90

[Text] Nairobi, 17th September (KNA)—The PS [Permanent Secretary] in the Ministry of Transport and Communications, Mr Andrew Ligale, has called on the northern PTA [Preferential Trade Area] states of Kenya, Ethiopia, Djibouti and Somalia to come to a definite agreement on the use of each others' telecommunications transit centres. Mr Ligale said this today in a speech read on his behalf by his deputy PS, Mr C.E.

Odera, during the official opening of the technical consultative committee meeting of the four countries held at K.I.C.C. [Kenyatta International Conference Center].

The meeting is considering, among other things, the use by PTA member states of Djibouti's telecommunications transit centre following the principle of collective self-sustained and self-sufficient development of the sub-region. Noting that the committee was formed as a means of accelerating the implementation of projects in the north PTA sub-region, Mr Ligale called on the committee to consider among others the Isiolo-Moyale-Somalia- Djibouti and Garissa-Liboi-Kismayo road projects as high-priority areas. He said it was expected that a smooth flow of inter-state road traffic would begin soon with regard to facilitation of transit traffic between Kenya and Ethiopia.

Mr Ligale told the committee to find a consensus on the projects to be submitted to donors, adding that Kenya attached great importance to the interstate transport and communications project and would consider hosting the first donors' meeting, whose convention timetable was to be discussed by the consultative committee meeting.

## ANGOLA

### Future North-South Satellite Links Announced

90AF0638H Luanda JORNAL DE ANGOLA  
in Portuguese 7 Aug 90 p 3

[Text] Transport Vice Minister for Telecommunications Licino Tavares announced in Uige at the end of the week a plan for ensuring communications via satellite between the country's northern and eastern provinces, and the capital.

Licino Tavares, in Uige to head a Ministry delegation, said that Uige, Zaire, Lundas, and Moxico provinces would be given priority.

According to the vice minister, the satellite system will be implemented within two years. He also noted that an economic rehabilitation program is being prepared for the Angolan Postal Company, involving telegraph, postal delivery, and mail services.

During a meeting with the Uige Transport Management Committee, the Angolan official announced the road measures already in progress, in particular the restructuring of both state and private transport and communications.

## BURUNDI

### France Financing Nationwide Television

EA2309110090 Bujumbura Domestic Service in French  
1100 GMT 21 Sep 90

[Excerpts] Soon it will be possible to receive TV all over Burundi. In fact, the third television phase was launched

at the diplomatic center of Bujumbura today with the signing of an agreement worth 5,100,000 French francs, the equivalent of 158 million Burundi francs between Burundi and France. Mr. Fridolin Hatungimana, Burundi secretary of state for cooperation, and Mr. William Benichoux, head of the French cooperation mission, signed the agreement, which also provides for production training. [passage omitted] Jean-Jacques Ntamagara has more details:

[Ntamagara] Throughout Burundi, only Bururi and Ruyigi in the south and Kirundo in the north remain outside the reach of national TV. With about 158 million Burundi francs, France, represented by the head of the French cooperation mission, has committed itself to setting up booster networks at the Inanzegwe, Mutumba, Birime, and Rumonge stations. France will also promote production, which will not only stimulate north-south professional exchanges but will also mobilize all the national TV's human resources in the production and resources sectors. This will be in addition to what France has already done for Burundi TV. [passage omitted]

## GUINEA-BISSAU

### Radio Freedom Back in Service

AB2109112590 Paris AFP in English 2247 GMT  
20 Sep 90

[Text] Bissau, Sept 20 (AFP)—Guinea-Bissau's Radio Freedom returned to the airwaves this week after a 16-year silence.

It was the mouthpiece for the African Party for Independence of Guinea-Bissau and Cape Verde (PAIGC) during Portuguese rule, but stopped broadcasting when independence came in 1974.

Its return to life marked the 34th anniversary of the PAIGC, and a conference was held here to discuss the party's past and future as sole legal party and one among many respectfully.

The authorities plan to bring in political pluralism over the next three years, and Radio Freedom's new role will still be to "renew and deepen democracy at the service of PAIGC militants", party officials dealing with information and propaganda explained.

It will broadcast twice a week in Portuguese and Creole. There is already a government-owned national radio service.

## SOUTH AFRICA

### SABC Now Favors Rival Electronic News Services

MB1609145090 Johannesburg SUNDAY STAR  
in English 16 Sep 90 p 6

[Report by Ian Gray: "SABC Is Ready To Accept Rival News Services"]

[Text] With a favourable decision on independent M-Net's [network] application to establish a news service

believed imminent, the Director-General of the SABC [South African Broadcasting Corporation] has come out in favour of rival electronic news services.

The corporation's chief executive Wynand Harmse feels that, with possible further deregulation and privatisation in the field of electronic news coverage, the SABC has no special claim on a monopoly.

But, he says, "what the SABC does ask is that the rules of the game be the same for all players" and that the situation does not arise where news coverage becomes a battlefield with an anything-goes attitude towards survival.

### Competition

Under those circumstances the SABC would not be able to carry out its role with regard to news and information in a changing South Africa and would have to resort to popularising the news simply to protect its viewer base.

"And that would be in the interests of no one, particularly the country," says Mr Harmse.

But while the director-general is prepared to accept competition, he is wary of calls for change which could worsen the position.

In an address to the Suider-Afrikaanse Kommunikasievereniging [South African Communications Association] (SAKOMM) at UNISA [University of South Africa], Mr Harmse quoted American Professor Donald Brown: "The philosophy of 'broadcast media as telecommunications commodity' threatens traditions.

"Not every tradition deserves to continue but every tradition deserves to be considered in the light of what it has meant to society and then re-examined to determine whether its diminution or disappearance would leave society the poorer."

And, said Mr Harmse, "in discussing this topic I have to refer to remarks about the notion 'democratising the media'. In this slogan, as in 'the people shall broadcast', I fear a new spectre of monopolism is haunting South Africa. This kind of language cannot be described as anything but totalitarian.

"A slogan like 'democratising the media' should therefore be viewed with circumspection. It is an action that runs the risk of further polarising South African society and of feeding intolerance precisely at a time when intolerance has become such a disturbing phenomenon."

Mr Harmse said: "South Africa is in a very critical phase of its development. The impact of the electronic media, and the access which people have to radio and TV, should in our view be utilised to the full—especially with regard to information and education—in the interest of our future.

"What is important is that this means that it will be necessary to look with the greatest circumspection at an appropriate media structure for this country.

"In this process the position, structure, control and financing of the SABC must be placed under the magnifying glass. There are many misconceptions about the SABC.

"The fact is that the corporation is not averse to an impartial appraisal of its position, the establishment of competition and the judicious 'deregulation' of the broadcasting terrain, provided this is done in an orderly manner and the broadcasting requirements of the population in all its facets are given due recognition."

Discussing the SABC's role as a source of information in a changing South Africa, Mr Harmse said that in the past it was simply the standpoints of organised parliamentary political parties that had to be reported.

#### **Companion**

"Now there are many extraparlimentary groups and groupings involved in public debate, sometimes with unconventional methods.

"The SABC says, therefore, that within this changing technological and socio-political climate, it will enter the future as a trusted companion to its listeners and viewers, to enrich their knowledge and their insight. And that means all its listeners and viewers.

"The SABC says it wants to be a bridge-builder between groups and to work against the stereotyping of groups and individuals. It accepts certain realities, that a political settlement between the different groups is a necessity, that these groups must work together on several levels and that choice of the majority will lead to a participative democracy."

### **TANZANIA**

#### **Pemba Station To Relay Zanzibar Television**

*EA1809130890 Dar es Salaam Domestic Service  
in Swahili 0330 GMT 17 Sep 90*

[From the Press Review]

[Excerpts] Starting from today Zanzibar TV transmissions will be relayed from the Pemba station instead of

Zanzibar. This was announced yesterday and UHURU has highlighted the news under the headline: (?TV) to use Pemba network.

The deputy director of the information, broadcasting and television department, Comrade Hassan Mfaume said that the decision was taken due to the fault in [words indistinct] Zanzibar. We started the transmission tests from Pemba on Friday, 14 September and the situation is very good. Should the situation continue to be so, we shall start full transmission on Monday, he told the journalists.

However, he said, some people in Zanzibar and Dar es Salaam might not receive the transmission due to technical reasons. Elaborating on that, Comrade Hassan said the Pemba network is of the VHF type whereas that of Zanzibar is UHF. This difference will mean Zanzibar viewers are unable to receive the transmission until they acquire a special booster device on their antennae. [passage omitted]

### **TOGO**

#### **Parabolic TV Antenna Inaugurated**

*AB2509105490 Lome Domestic Service in French  
1900 GMT 20 Sep 90*

[Summary] A ceremony marking the inauguration of a parabolic antenna to receive Canal France International [CFI] television service, took place this afternoon in the gardens of the Togolese Television Studios in Lome. The antenna was installed in September 1989 with the initial aim of showing CFI programs. The antenna comprises a 6.10-meter satellite dish. The ceremony was jointly chaired by the French minister in charge of Francophone affairs, Mr. Alain Decaux, and the Togolese minister of information, Mr. Kwaovi Benyi Johnson.



### Spokesman Reports 2 'Daqi' Satellites Operating Normally

OW2109212990 Beijing XINHUA in English  
1505 GMT 21 Sep 90

[Text] Beijing, September 21 (XINHUA)—The two "Daqi (atmosphere) No. 1" balloon satellites launched by China on September 3 are operating normally, according to a spokesman from the space center of the Chinese Academy of Sciences.

The spokesman told the "PEOPLE'S DAILY" that scientists have obtained the first data from the satellites.

The two satellites were launched along with a "fengyun" meteorological satellite by a Long-March-4 rocket.

The two satellites, one three meters and the other 2.5 meters in diameter, are made of aluminium-plated polyester. After being placed into orbit the satellites are filled with an evaporating substance.

Since they are not the same size and weight, the satellites orbit at varying altitudes due to atmospheric resistance. By observing their orbits, scientists can calculate the density of the atmosphere at different altitudes.

The two "Daqi No. 1" satellites are scheduled to orbit for three to six months, and during this period Chinese scientists will be able to obtain data about atmospheric density at altitudes from 400 to 900 km.

The two satellites were jointly developed by departments under the Chinese Academy of Sciences, the Ministry of Aero-Space Industry and the State Education Commission.

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### Communications Sector To Consolidate

OW2009041890 Beijing XINHUA Domestic Service  
in Chinese 0446 GMT 18 Sep 90

[Text] Beijing, 18 Sep (XINHUA)—The State Council recently issued a document that approves and circulates the Ministry of Posts and Telecommunications's "Plan on Strengthening Management of and Consolidating the Communications Sector," and asked all localities to act accordingly.

The document points out: Since the implementation of the policy of reform and opening to the outside world, China has seen a rapid development in its postal and telecommunications undertakings. Its communications capacity, technologies, and facilities have improved greatly. By the end of 1989, the public intracity telephone switchboard capacity in the country was 6.6 million lines, 2.8 times as much as in 1978. There were 10 million telephones, nearly twice as much as in 1978. The number of long-distance telephone lines came to 87,000, 3.6 times as much as in 1978. In 1989, 93.1 percent of telephones in urban areas across the country were automated, while 60.3 percent of long-distance

telephone lines were automated or semiautomated. By the end of 1989, more than 500 cities across the country were linked up with the automatic, domestic long-distance telephone switchboards, and 200 cities had access to direct dialing with 182 foreign countries and regions. A nationwide automatic public telegram transmission network was basically set up, and new services such as satellite communications, mobile communications, telex, fax, data retrieval, and electronic messages were opened in succession. In addition to the rapid growth in public communications networks, the development of special communications networks, as a supplement to public ones, has also quickened to meet the needs of reform, opening to the outside world, and modernization programs. However, at present there are some issues in connection with the planning, construction, and management of the communications sector that should not be overlooked. First of all, there is the problem of redundant construction. Many special communications circuits run side by side with public ones in major communications corridors due to the lack of an overall plan. Moreover, several microwave stations and satellite ground stations can be found in any given locality. Such redundant construction strains maintenance efforts and results in under-capacity use of communications circuits, interference between parallel communications circuits, poor communications quality, and a waste of communications resources (such as circuits, frequencies). Second, the communications sector is in chaos. Various communications companies have cropped up in many localities. They set up their own communications facilities and operate communications services. Some departments offer communications services to the public with their special communications facilities without authorization, gravely upsetting the normal order in the communications sector.

In order to straighten out the chaotic state of the communications sector and better implement the State Council's guiding principle, which calls for "overall planning, coordination between departments, clear responsibility at each level, and joint construction," the document presents the following five measures:

1. The Ministry of Posts and Telecommunications, as the state agency in charge of communications work in the country, is responsible for the management of the communications sector. The Ministry of Posts and Telecommunications should take the initiative and actively provide consultation and service to special communications networks through good planning and coordination, while focusing on the development of public ones. It should support and assist regional special communications networks in their technological retooling for linkup with public ones. It should also work to bring about a coordinated development between public and special communications networks.

2. Construction of public and special communications networks should be carried out under an overall plan. Joint construction of communications facilities should

be encouraged. With the exception of certain departments with special needs, all departments in principle should not be allowed to build their own long-distance communications circuits. In principle, long-distance communications lines needed by various departments are to be provided by public communications networks. When public communications networks can not meet the need, new long-distance communications lines should be constructed jointly, based on the principle of mutual benefit. Communications networks to be built by large factories, mines, and enterprises should be integrated into local construction plans for public communication networks. Those regional special telephone networks parallel to public intracity ones should be retooled with joint investment to form unified intracity telephone networks. All new long-distance communications projects (including their ancillary facilities) should be examined by the Ministry of Posts and Telecommunications or the administrations of posts and telecommunications at the provincial, regional, and municipal levels. The Ministry of Posts and Telecommunications will be solely in charge of building civilian satellite communications facilities and renting them to foreign countries. The ministry also is responsible for building international communications facilities. All equipment used in public communications networks must meet state technical specifications and standards.

3. Major communications services must be operated by the state. Access to special communications networks is confined to their owners and, in principle, should not be opened for public services. In localities not covered by public communications networks, special communications networks may be temporarily opened for public services after being examined and approved by local departments of posts and telecommunications. In this case, they must register with administrations of industry and commerce and pay taxes according to the law. Long-distance and international communications services are operated solely by the Ministry of Posts and Telecommunications. Delivery of letters and other mail is handled by postal enterprises only.

4. It is necessary to consolidate the communications sector in the general drive to improve the economic environment and rectify the economic order. In line with the aforementioned, all local departments of posts and telecommunications should join administrations of industry and commerce in examining and registering enterprises and companies engaged in postal and telecommunications services in accordance with pertinent regulations. Effective immediately, all units planning to

operate communications services must first be examined and approved by departments of posts and telecommunications and register with administrations of industry and commerce before opening for business.

5. Construction and management of communications facilities in rural areas should be expedited. Collective telephone facilities in townships and towns, without changing their ownership, should be put under the administration of county (city) people's governments. They should be incorporated into the infrastructures of the counties (cities) where they are located. County (city) bureaus of posts and telecommunications are in charge of the detailed work under the leadership of county (city) people's governments.

### **Liaoning Radio and Television Tower Completed**

SK1709120690 Shenyang Liaoning Provincial Service  
in Mandarin 1030 GMT 16 Sep 90

[Excerpt] The Liaoning radio and television tower project officially passed the acceptance test today. Xu Chonghua, vice minister of radio, film, and television; Lin Sheng, provincial vice governor; Shen Xianhui and Peng Xiangsong, vice chairmen of the provincial committee of the Chinese People's Political Consultative Conference; and (Liu Gunjun), deputy commissar of the provincial military district, cut the ribbon for the completion of the project.

The Liaoning radio and television tower is a key construction project for the province during the Seventh Five-Year Plan period. The project was developed by the provincial radio and television department, designed by the designing institute of the Ministry of Radio, Film, and Television, and built by the first company of the China No. 3 Construction Bureau. Construction of the project started in August 1984, and the tower went into trial operation in August 1989. The radio and television tower which, is 305.5 meters high, is capable of transmitting seven television programs and six FM radio programs simultaneously. Through microwave circuits in 10 directions, it can also relay the radio and television programs of the central and the provincial stations to all localities of the province. The tower is the radio and television transmission and relay center for our province. After more than one year of trial operation, all the programs it has broadcast have met the designed requirements, thus greatly improving the conditions for the people throughout the province to listen and watch radio and television programs. [passage omitted]

## INTER-ASIAN AFFAIRS

**Hong-Kong PRC Telecommunications Expanding Rapidly***OW1509063390 Beijing XINHUA in English  
0019 GMT 15 Sep 90*

[Text] Hong Kong, September 15 (XINHUA)—There has been a 51.7 percent growth in telephone calls from Hong Kong to the Chinese mainland in July this year over the same period of last year.

The figure was disclosed by Fung Hak-Ming, managing director of the Hong Kong Telecom International, while addressing the Lions Club of Victoria here Wednesday.

He said: "From our experience with our counterparts in the Ministry of Posts and Telecommunications in Beijing and the Guangdong Bureau, we have many reasons for confidence in the future.

"Our China traffic is responsible for about 40 percent of our international growth figures over the last few years."

Fung expected sustained growth in traffic with their neighbor to the north so they will continue to expand in this area.

He said "We now have four ways to reach China, microwave, optical fibre cables, analogue cables and satellite. We are currently maintaining over 4,000 circuits for traffic to China, and surely this number will steadily increase throughout the decade."

He noted that the Hong Kong Telecom has signed a three-year training agreement with the Guangdong Bureau of Posts and Telecommunications.

The first training session is currently taking place in Zhuhai Special Economic Zone, Guangdong Province.

He said Hong Kong Telecom International is planning a second fibre optic land cable into Guangdong Province, to terminate in Shenzhen.

The entire cost of the project is 23 million H.K. dollars (2.95 million U.S. dollars) and the cable will be ready for service by March 1991.

The new fibre optic land cable system will provide an initial capacity of 15,360 telephone channels, expandable to 46,080 telephone channels.

**DPRK To Allow 11 Telecommunications Links for Japanese Delegations' Visit***OW2109060890 Tokyo KYODO in English 0514 GMT  
21 Sep 90*

[Text] Tokyo, Sept. 21 KYODO—Japan and North Korea will soon establish telecommunications links to prepare for a visit to North Korea by delegations from Japan's ruling Liberal Democratic Party (LDP) and the

Japan Socialist Party (JSP). Posts and Telecommunications Minister Takashi Fukaya said Friday.

Fukaya told reporters that the North Korean Ministry of Posts and Communication has agreed to set up a total of 11 telecom links between Pyongyang and Tokyo—five via satellite and six telephone lines routed through Hong Kong, Singapore, and France.

The planned satellite telecommunications links include one for television transmission, three for telephones, and one for television sound.

A total of 36 journalists from Japan will cover the September 24-28 trip by delegations from the LDP and the nation's largest opposition party.

The LDP group will be led by former Deputy Prime Minister Shin Kanemaru, while JSP Vice Chairman Makoto Tanabe will head his own delegation.

Kanemaru's trip will be the first visit by an LDP delegation. The JSP has served as the main channel of communications between the two nations in the absence of bilateral diplomatic relations.

Fukaya said two officials from his ministry and KDD [Kokusai Denshin Denwa], a major Japanese international telecommunications conglomerate, will accompany the delegations to discuss preparations for establishing permanent satellite links between the two countries.

Current telephone circuits between Japan and North Korea are operated through shortwave radio, ministry officials said.

## AUSTRALIA

**Ruling Labor Party Backs Telecom Privatization***BK2409065290 Hong Kong AFP in English 0614 GMT  
24 Sep 90*

[Text] Canberra, Sept. 24 (AFP)—Private enterprise will be invited by the Australian Government to compete with the state-run telecommunications network following an historic vote Monday to abandon the monopolies held by Telecom and OTC Limited.

The decision took the Australian Labor Party a step closer to abandoning its most sacred and enduring principle—the concept of public ownership enshrined in policy since the early 1920s.

After four hours of emotional debate, delegates to a special national conference here voted 58-43 to support government plans to expose the telecommunications networks to private competition.

The domestic network, Telecom and the international network OTC Limited will be merged to form a giant, publicly owned facility which has been dubbed Megacom.



A third public network, the satellite facility known as Aussat, will be sold to form the basis of a private company or consortium, probably with substantial overseas investment to compete face-to-face with the public facility.

Debate was to continue on a government proposal to sell 49 per cent of international carrier Qantas and all of Australian Airlines.

Delegates from all three party factions, including the left which opposes privatisation, were predicting a similar vote in favour of the sell-off.

However, the vote was so close in the telecommunications debate that Labor leaders fear continuing disunity in the party which they say could be seriously damaging to the government.

The major telecommunications union has vowed to fight the decision all the way to the next election.

Its Queensland president, Ian Mclean, who is vice-president of the Labor Party, predicted the government would "lose office unless it changed its ways before the next election."

The conference vote nevertheless represents a win for Prime Minister Bob Hawke and senior economic ministers who led the party into reversal of the anti-privatisation philosophy still strongly evident on the conference floor Monday.

It also completed the process started for Labor with treasurer Paul Keating's successful fight to partially privatise the Commonwealth Bank a month ago.

The government was accused by leftwing conference delegates Monday of selling out Labor principles.

Mr. Mclean told the conference that the government's plan would clear the way for an American or Japanese company to come in and take the cream of business from Telecom and OTC.

He said "We are in a position where either the government rolls the party—and the government gets a kick out of that—or the party rolls the government and nobody gets a kick out of that."

He proposed an amendment urging preservation of the telecommunications monopoly and continuing opposition to privatisation, urging delegates to defeat the government.

"They cannot expect the loyalty of the Labor Party if they are continuing to follow ... this unworthy and unsustainable venture."

Another leftwing delegate, Sue Robinson, accused the government of failing to consult its rank and file and said it was opposed by every section of the Labor Party.

"We see a situation where the leadership are alienated from their rank and file", she said.

She described the issue as an ideological debate dressed up under the cloak of micro-economic reform.

"We have a government with a cavalier attitude to its policy platform. We have a government today which is defying the party to uphold the platform."

But in a spirited defense of the government position, Mr. Hawke said the simple fact of life was that all social democratic and socialist governments were abandoning outdated dogma.

"With the possible exception of Albania and Cuba that outdated dogma has been progressively discarded", he said.

Mr. Hawke said the proposal formulated by Telecommunications Minister Kim Beazley and accepted by the government would maintain a fully publicly owned telecommunications facility.

He told the 101 delegates they could ensure a publicly owned facility with private competition or give their conservative opponents a gold plated guarantee. They could totally privatise the telecommunications network after the next election, which they would win.

## JAPAN

### KDD Seeks Satellite Network With North Korea

OW1309144790 Tokyo KYODO in English 1122 GMT 13 Sep 90

[Text] Tokyo, Sept. 13 KYODO—The head of KDD [Kokusai Denshin Denwa], an international telecommunications giant, expressed interest Thursday in the establishment of a satellite network between Japan and North Korea.

KDD President Takazo Ishii told a press conference that the company is positive toward the project, a possible item on the agenda during a visit by a ruling party delegation led by former Deputy Prime Minister Shin Kanemaru to North Korea from September 24.

"We have not received any request from the government (to join the delegation). But if we receive it, we are willing to handle it positively," Ishii said.

The proposed formation of a satellite network is not only intended to improve telecommunications between the two countries but also seen as a symbol of bilateral efforts toward better relations between them, industry sources said.

North Korea is the only country Japan is still communicating with through shortwave radio. Since there are only four lines, three for telephone and one for telegraph, it usually takes for an international telephone call between 30 minutes and an hour to be connected.

The absence of bilateral satellite communications is due more to the lack of political ties between the two nations



than to technical problems, the sources said. North Korea has already opened satellite lines with West Germany, France, China, Singapore, and Hong Kong.

### **NEC Develops 10 Gigabit Optical Regenerator**

*OW1709102490 Tokyo KYODO in English 0742 GMT 17 Sep 90*

[Text] Tokyo, St. 17 KYODO—NEC Corp. has developed what it claims to be the world's first optical regenerator for practical use that can transmit 10 gigabits of information per second, equivalent to more than 50 English-language Bibles, company officials said Monday.

The new optical regenerator will aid moves toward the institution of a next-generation broadband digital network to meet potential demand for high-definition television broadcasting and teleconferencing, the officials said.

The regenerator has external modulation and amplification operations as well as reshaping, retiming, and regenerating optical/electronic/optical signals.

The long-distance optical data transmission equipment allows for a 400 percent increase in transmission capacity over the presently developed 2.4 gigabit systems, and produces less wave distortion, while guaranteeing optical power for the receipt of information, they said.

In 1988, the International Telegraph and Telephone Consultative Committee (CCITT), headquartered in Paris, recommended an international standard for synchronous digital hierarchy for optical transmission equipment with a maximum speed of 2.4 gigabits.

The CCITT is an international organization which sets standards and protocols governing the format and timing of sending data over communications and telecommunications equipment.

The company plans to have the equipment ready for commercial use in about three years, the officials said.

The results of the breakthrough were to be announced at the 16th European optical communications conference in Amsterdam on Monday and the institute of electronic communication engineers in Hiroshima on October 1, they said.

## **THAILAND**

### **Thailand To Lease Indonesian Satellite Transponder**

*BK1709090590 Bangkok Domestic Service in English 0000 GMT 17 Sep 90*

[Text] The contract to lease the Palapa satellite transponder will be signed today between the Indonesian Telecommunications Authority and the Thailand Post and Telegraph Department; the Telephone Organization of Thailand; Krungthep Television and Radio Co., Ltd.; and Samat Telecom Co., Ltd.

The signing ceremony will be held at 10.30 am at the Ambassador Hotel in Bangkok. Representing the Thai Government agency and the state enterprise will be Director General of the Post and Telegraph Department Sombat Uthaisung, while the two business firms will be represented by their respective appointees.

Satellite communications in Thailand started in 1979 when the Indonesian Telecommunications Authority signed a leasing contract with Krungthep Television and Radio Co., Ltd. to allow the latter to use the Palapa transponder for the relay of television program signals from Bangkok to rural areas. Thereafter, the satellite system has been widely utilized for the expansion of telecommunications in the country. Today's signing ceremony will add one and an eighth transponder to the number already leased by Thailand for use in its relay program and signals and other telecommunications service.

## CZECHOSLOVAKIA

### Calfa on Federation, Media Issues

LD1409223490 Prague Television Service in Slovak  
1750 GMT 14 Sep 90

[Interview with Premier Marian Calfa by unidentified interviewer; date and place not given—live or recorded; questions in Czech]

[Excerpts] [Interviewer] Mr Premier, a week ago we spoke about certain questions of the relations of the national governments to the federation, and since that time many important things have happened. The public knows that all three premiers spent the weekend together, and that there was a meeting in Piestany of the two governments with representatives of the federal government. Now, a week on, are you a greater optimist or have things, on the other hand, become more complicated?

[Calfa] I would begin my reply by saying that we have moved a bit further forward. I think it is known that all three of us met, that we held discussions, and the significance of Piestany is that the two governments, the complete governments, met with representatives of the federal government, and that as one unit we dealt with all the issues tabled at Trencianske Teplice—that is the first positive aspect which I see of the meeting in Piestany.

The second positive aspect I see lies in the fact that we managed in a certain way to give a positive definition to our future, our idea about the federation, our idea about the division of powers. Of course - and this has appeared in the press—contradictory views came to light in certain areas, but there are no longer so many of them now. That is to say that the views on how things should be arranged and on the division of powers have come closer together.

[Interviewer] One of the areas which appears to be unresolved at the moment is the question of the media, the existence of the national televisions and radios, basically there is no doubt that this is going to happen, but arguments are going on about the set-up of the federal institutions in the sphere of the media. What is your view on this?

[Calfa] In Piestany we also discussed the conclusions of the working group for this sphere. As far as radio and television are concerned, at the beginning we proceeded from the basis that they should be organized solely on a republican basis. That means that there would be Czech and Slovak televisions and Czech and Slovak radios on the understanding that the two would also make up the federal program together in some percentage or share. On behalf of the federal government I expressed the unequivocal view that both radio and television must have an autonomous federal structure which would report on the activity of the whole federal structure of the government, parliament, the president, and the central agencies of the federation. I must say that we discussed

this for rather a long time, and in the end our views became united. There was a certain apprehension on the part of the republics that the federal structure should not be superior in some way to the two republican structures—that is not our interest at all; the point is that it should be autonomous and independent of the republics, and that it should cover federal news broadcasting, and do so on an autonomous basis. That means that it would have at its disposal the appropriate necessary production equipment. I also have the impression that this was accepted; this was the view of the ministers of culture who will be, in a way, the central agents of state administration for television and radio in the republics, so it seems to me that it only remains to deal with the technical resolution of this problem and its definition in law. [passage omitted]

[Interviewer] The last question is this: the economic reform scenario is to be tabled in parliament, the government will defend the scenario and parliament deputies will give their reaction one way or the other. This begs the question to what extent will the public be prepared to accept these radical and often unpopular steps? From this point of view, what situation do you think the government is currently in?

[Calfa] Well, of course we are assessing the situation we are in, we are assessing the public mood, especially because the scenario contains a number of measures which will truly affect the life of every individual. I can say that on the 27th all three governments are going to meet, evidently in Kromeriz, and evidently with the participation of the president. We want to adopt a sort of government concept, which will then be put on a legal basis, of the so-called small privatization. In other words, in fact the process under which restaurants, service outlets and so forth, such as dressmaking, services, and production will pass into private ownership. In short, we are really beginning in this second half of the year, we are really serious about it, and we are really declaring the onset of fundamental economic changes which, as I have already said, are going to affect the day-to-day life of our people. [passage omitted]

### REUTERS Reopens Permanent Prague Office

LD2009221290 Prague CTK in English 2133 GMT  
20 Sep 90

[Text] Prague Sept 20 (CTK)—REUTERS News Agency today officially reopened its permanent office in Prague after ten years.

REUTERS had its office in Prague from 1968 to 1980 when the then Czechoslovak regime did not allow REUTERS correspondents to continue their work in Czechoslovakia and the agency had to report on Czechoslovakia from Vienna. From 1988, Vienna's branch of REUTERS had its permanent correspondent in Prague.

The opening of the permanent office was decided one year ago and by coincidence the agency sent its first report from its new Prague station on November 17,

1989, the day of the demonstration which touched off public protests that led to the fall of the communist regime.

On an average, REUTERS sends about 300 to 400 words daily on Czechoslovakia.

During a party tonight, REUTERS' former reporter, now Czechoslovak presidential adviser and press spokesman Michael Zantovsky, CTK News Agency Director General Petr Uhl, Prague journalists and other guests were received by Editor-in-Chief of REUTERS' World News Service Graham Williams.

## GERMAN DEMOCRATIC REPUBLIC

### People's Chamber Passes Transference Law for Broadcasting

LD1409025990 East Berlin ADN International Service in German 2215 GMT 13 Sep 90

[Text] Berlin (ADN)—Shortly before midnight the deputies passed in the second reading the Law on Transference of Broadcasting (television and radio) to the legislative competency of the future five federal laender and "the part of Berlin in which hitherto the Basic Law was not valid".

In accordance with this, GDR radio and EFF Television Network are to continue to be run as communal institutions independent of the state and with legal status until the end of 1991 at the latest, insofar as they undertake tasks which are within the competency of the laender. In a short debate the deputies Lothar Bisky [Party for Democratic Socialism] and Konrad Weiss (Alliance 90/Greens) regretted that the locations of Nalepastrasse and Adlershof would be lost as national stations and production centers.

### Future Expansion of Telephone Network Detailed

90GE0269A East Berlin DIE DEUTSCHE POST in German No 4, Jun 90 pp 151-154

[Article by Chief Director Dr. Willi Guelzow and Chief Officer Wolf Reiner Menzel, graduate engineer, General Directorate for Telecommunications, Deutsche Post [German Postal Service, GDR]: "Status and Future of Telecommunications in the Deutsche Post"]

[Text] In the wake of the economic reform which has been initiated, the historic events since last November have produced remarkable changes in all sectors of social life. Concrete cooperative efforts are in the offing in economic circles. The tourist industry is undergoing increasing development. On both sides there is a high level of readiness to work together. How this development will take place so as to be of value to our citizens depends to an appreciable extent on how the telecommunications infrastructure is expanded.

The "ministers of post and telecommunications" in the FRG and GDR have given mutual cooperation the "green light." By virtue of a number of immediate measures and intermediate and long-term plans, the two post and telecommunications administrations in the FRG and the GDR will see to it that communications and communications connections for citizens and the economy are improved as quickly as possible.

### Basic Situation

The republic's telecommunications network is in a hopeless state. Some 65.7 percent of the switching equipment is over 30 years old, with 20 percent of that more than 60 years old. The housings are utilized to full capacity, switching equipment installations, switch points, connecting cables and subscriber line cables are wired up to a reasonable limit. About 60 percent of the lines are party lines. While in areas with new housing construction acceptable supply capacities were in part possible from building new telephone exchanges and the accompanying network—a substantial difference between Berlin and other bezirks is widely recognized, the installation of telephones in conventional residential areas, in developments and in rural communities was neglected to an unreasonable degree. Thus, in 3,533 rural communities and developments with up to 2,500 residents there is not even a public pay phone.

As of 1 January 1990, 1,826,190 subscriber's lines were installed. The offices of the Deutsche Post [German Postal Service, GDR] have 1,200,000 unfilled applications with a waiting period of up to 20 years—some even longer. These also include a number of applications with high social urgency (for example, the most severely handicapped, physicians, district nurses, trade enterprises, service facilities). In recent years the waiting time for telephone installations has developed in an extremely negative way, both in scope and in waiting time. Profits from telecommunications operations, including those from the FRG's flat postal rates, were not available for use in the relevant sector, rather they were used for other sectors of the economy and to provide internal subsidies for totally different sectors. Thus, it was not remotely possible to develop telecommunication in a way which was directed at the needs of the economy, and the people.

For years the ministers for post and telecommunications, in a variety of presentations to the then party leadership and the government, had pointed to the disastrous faulty development of the telecommunications infrastructure as an economic growth carrier and as an expression of the quality of life of the people. Ideas for further dynamic development in new segments of growth were submitted in design plans. Ignorance, arbitrariness, and false estimates of the actual economic situation and quality of life prematurely quashed all suggestions. Thus, the German Post Office was not in a position to reduce the economic damage which had come about as a result of predetermined capital assets which in a substantial way had been centrally calculated too closely by the government.



### Strategic Development Design

In the next few years the primary task for the Telecommunications Division of the Deutsche Post will be fast quantitative and qualitative expansion of the hopeless telecommunications network. The most comprehensive modernization and expansion of the telecommunications infrastructure which the GDR has experienced to date must make a substantial increase in supplying the people and the economy with telecommunication services. This requires setting a tempo in the next few years which will permit installing several million new subscriber's lines. At the same time developing the infrastructure must be organized in such a way as to achieve compatibility with the structure of the Telecommunications Division of the Bundespost [FRG Postal Service] and to make possible the proposed merger of the two systems.

Following the current trend with respect to announcements concerning installation of subscribers' lines, we anticipate in subsequent years substantially higher pressure from enterprises, businesses, and private customers for telecommunications capacities. By coordinating with the Bundespost's Telecommunications Division we are countering this pressure with a design involving clear objectives on a scale which internationally has hardly been equaled. All measures up to 1997 by this industry are focused on installing:

- 7.1 million new primary telephone lines;
- 60,000 new public phone booths (card and coin telephones);
- 300,000 C and D system mobile radio lines, in the following stages:

	Primary Telephone Lines	Coin/Card Telephones	Mobile Radio Lines
1991	300,000	4,000/2,000	3,000
1992	500,000	4,000/6,000	7,000
1993	800,000 <sup>1</sup>	4,000/8,000	20,000
1994	1,200,000 <sup>1</sup>	2,000/8,000	50,000
1995	1,400,000 <sup>1</sup>	2,000/8,000	60,000
1996	1,400,000 <sup>1</sup>	1,000/7,000	80,000
1997	1,500,000 <sup>1</sup>	1,000/3,000	80,000
(1990)	100,000	2,000/100	500

<sup>1</sup>based on digital switching equipment

In addition to measures to supply telephone lines, telex lines (6,000 by 1997) and to make marked improvements in telephone traffic with the FRG and West Berlin, other important telecommunication services must be expanded or developed (for example, telecopying service, data service with 50,000 data connections to the national Datex P system of the Telecommunications Divisions of the Bundespost and the Deutsche Post by 1997, videotext service).

### Immediate Measures

A first step in our development design will take shape with the installation of 100,000 subscriber's lines in 1990. Approximately 2,000 GDR-produced coin telephones for long-distance direct dial service and coin telephones which were provided by the Bundespost will be new installations primarily in rural communities and developments with more than 500 inhabitants.

Some 100 card-operated telephones which use telephone credit cards will be put into operation.

Various inner-German task forces from the post and telecommunications system sector are hustling to make concrete improvements in telecommunications capacities to benefit the economy and the people.

There is agreement on:

- purchasing 18 analog and 14 digital container telephone exchanges;
- accepting 2,500 system 63 coin telephones;
- accepting more than 1,000 small pay phone booths, about 200 mobile emergency power systems, a rather large number of small and medium-size private branch exchanges, telephone end items and other facilities related to telecommunications technology.

The containers with digital switching equipment are being put into operation in Dresden (8)—3 containers were put into operation on 4 May 1990—Chemnitz, Zwickau, Reichenbach, Borna Sued, Neustrelitz and Erfurt (1 each). After creating the necessary prerequisites in the telecommunications network, about 34,000 subscriber lines will be realized. Neubrandenburg, Magdeburg, Halle, Leipzig, Chemnitz (3 each), Erfurt (2), Frankfurt/Oder (1) were established as operation sites for the containers with analog switching equipment (motor uniselector system) which were taken out of service in the FRG. Thus, 20,000 more subscriber lines are being installed.

As a result of coordination with the FRG's telecommunications division, provision is being made for a more than twofold increase in the number of telephone circuits in 1990.

### Medium- and Long-Term Measures to Expand the Telecommunications System 1991-1997

The strategic objective is based on expanding or building up at minimal cost a telecommunications system for all services and performance features.

In order to achieve operationally effective results in a relatively short period of time, starting in 1990 a digital network (overlay network) which is superimposed on the conventional analog telecommunications network will be built in stages. This network must be continuously expanded and in the future will replace the existing analog network.



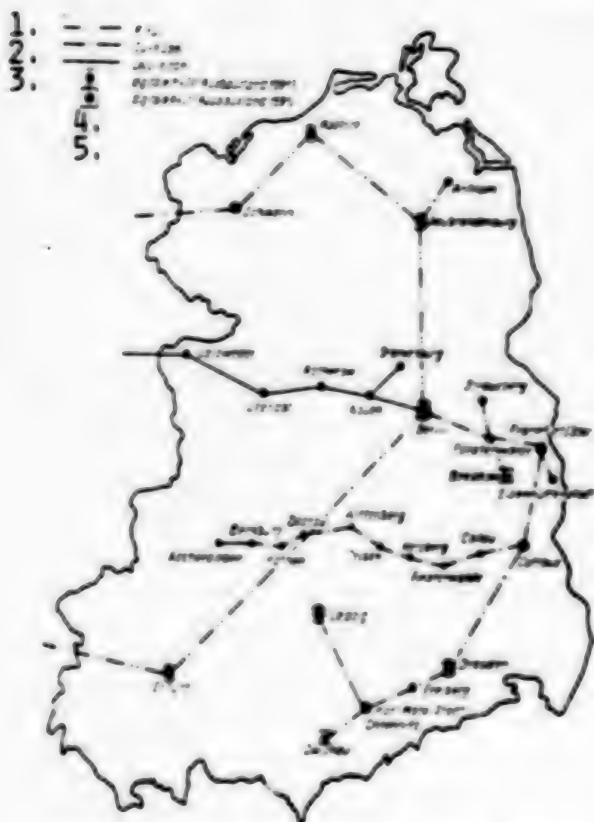


Figure 1. Digital Overlay Network 1990 to 1991

Key: 1. Rifu [directional transmission] 2. Cu cable 3. LWL [light wave conductor] cable 4. Digital HVSt [main trunk exchange] (1991 level of expansion) 5. Digital KVSt [junction exchange] (1991 level of expansion)

Parallel with the expansion stages, the analog telephone system must be maintained as the material-technical basis and expanded on a limited scale.

#### First Expansion Stage 1990/1991

As a first step an international digital telephone exchange (IVSt) will be established in Berlin in 1990/1991; it will be used for all international automatic and semi-automatic traffic (Figure 1). Provision is made for a digital link toward the FRG by switching in the IVSt.

The highest level of the overlay network is scheduled to have trunk exchanges (FVSt) at locations of specific analog main trunk exchanges (HVSt). This will be used to handle all internal long-distance traffic.

In the HVSt sectors with digital FVSt, junction exchanges (KVSt) which are to be of new construction will be built as digital FVSts.

At the same time digital local telephone exchanges (OVSt) will be built at digital FVSt locations.

The first expansion stage calls for building digital FVSts in the following order:

- Dresden, Leipzig, Chemnitz and Erfurt for the south-eastern GDR
- Neubrandenburg and Rostock for the north of the GDR
- Zwickau and Strausberg as combined local and trunk exchanges and
- immediate construction of a digital remote exchange in Berlin after the first expansion stage.

FVSts are to have primarily digital connections with one another and with the IVSt. Until the relevant junction lines are completely digital, the FVSt must provisionally guarantee switching of the analog telephone channels. In addition, linkages with the existing telephone system of the Deutsche Post must be installed in all the planned FVSts.

#### Second Expansion Stage 1992-1997

By the end of 1995 expansion of the digital overlay system is supposed to insure that digital FVSts (HVSt/KVSt), including the relevant OVSts, will be in place in all GDR bezirk cities (Figure 2). In addition, light wave conductor (LWL) cable installations involving Berlin-Leipzig-Gera-Erfurt with transmission to the FRG and Berlin-Magdeburg-FRG will be put into operation. Analog radio-directed long-distance communication connections will become digital. As a result of coordination with the Bundespost, mobile radio connections of the Deutsche Post's C-network will be realized along the autobahn transit routes as well as with the use of the West Berlin mobile radio system in East Berlin, Leipzig, and in an extensive build-up of a large area mobile radio system (D-network), and there are plans for introducing radio calls (city calls).

Network junction points in the gang-relayed data network are being established in 11 other bezirk cities.

Rebuilding the telex network with modern digital equipment is being initiated.

The technical prerequisites to introduce videotext service are being created.

Further expansion of the telecommunications network will be done exclusively with digital equipment. Expanding the digital channels as a substitute for conventional TF [carrier frequency] long-distance communication equipment is being continued with efficient LWL cables and PCM [pulse code modulation] equipment involving a large number of channels.

The digital mobile radio system is gradually being expanded into an areal system.

Provision has been made for properly realizing the material-technical basis for text and data communication as well as for videotext.

Installation of 2 million telephone lines, 100,000 mobile radio connections and lines for other service is scheduled for the years 1998 to 2000.



Figure 2. Digital Overlay Network 1992 to 1995  
(continuation of Figure 1)

Key: 1. Rifu 2. Cu cable 3. LWL cable 4. FVSt (trunk exchange) 5. Digital HVSt (1993 level of expansion) 6. Digital KVSt (1993 level of expansion)

## POLAND

### New Cable Radio Station in Cieszyn

LD1109231890 Warsaw Television Service in Polish  
1515 GMT 11 Sep 90

[Text] The (Teltron) firm has founded a local radio station in Cieszyn. The radio broadcasts its programs from 0700 to 1500 [0500 to 1300 GMT], transmitting via the cable network to enterprises and individual recipients.

### Plans For Third TV Channel Reported

#### Warsaw Has Most Advanced Work

LD2009163790 Warsaw Television Service in Polish  
1515 GMT 20 Sep 90

[Text] Work on preparations for a third television channel is continuing. It is to come into existence in nine towns as a local commercial channel. Limited companies will be set up to run this channel. Warsaw is the most advanced in its work. The controlling share-holding belongs to the television. The remainder is being sought by many willing buyers. The minimum investment is 1 billion zloties.

The channel will broadcast for 20 hours a day. Two hours will be filled with original productions, the rest from tape-libraries and satellite. Profits will come from advertising.

### Szczecin To Receive Third Channel in 1991

LD2109084190 Warsaw Domestic Service in Polish  
0200 GMT 21 Sep 90

[Text] Szczecin is to receive a third television channel in the New Year. It will be broadcast from 10 to 12 hours daily. It will include original transmissions and retransmissions of satellite programs, translated into Polish. The channel will be financed mainly through advertisements.

## YUGOSLAVIA

### Government's Media Proposals Assessed

LD1909181390 Belgrade TANJUG in English  
1517 GMT 19 Sep 90

[Text] Belgrade, Sept 19 (TANJUG)—The Assembly of Yugoslavia Information Committee today assessed as positive a federal government proposal for a transformation of the federal media into state-owned enterprises, which would eventually become joint-stock companies.

In the conditions of a disintegration and blockade of the Yugoslav information system, the media founded by the federal legislature—including the daily BORBA, the news agency TANJUG and Radio Yugoslavia—have become media of first-rate importance, as Federal Information Secretariat Secretary Darko Marin said today.

Marin set out that an objective and comprehensive coverage of the events in the country, including reform measures, by the federal media would help Yugoslavia's integration into European and world processes.

He underlined that professionalism, ethics, a market orientation and rationalization were the requirements which had to be met by the federal media.

Marin said that Yugoslavia had reserved a satellite channel via which the Yutel television channel and Radio Yugoslavia would broadcast their programmes for abroad as of September 1, 1991.

Branislav Crncevic, a deputy from the Republic of Serbia, drew attention to a possible abuse of the federal media, especially Yutel, by the federal government for the promotion of the political goals of the alliance of reformist forces of Yugoslavia, initiated by Federal Prime Minister Ante Markovic.

### Problems With Broadcast for Yugoslavia in France

LD1909155590 Belgrade TANJUG Domestic Service  
in Serbo-Croatian 1024 GMT 19 Sep 90

[Text] Paris, 19 September (TANJUG)—Radio station Jugo Medija which, with TANJUG assistance, until recently used to transmit a daily broadcast in Serbo-Croat has rearranged its broadcasts during the past fortnight. Instead of being heard every morning the news from Yugoslavia can now be heard only on Saturday and Sunday.

The decision of the (Allegre) radio station, which yielded its frequencies for two hours every day to Jugo Medija, to cancel the daily Serbo-Croat broadcast has caused dismay among Yugoslavs in France who are sending petitions in a bid to preserve the program.

The French station recently started to impose conditions on its cooperation with Jugo Medija, asking it to broadcast its program in French although this is not provided for in the existing agreement. Nor have the French authorities ever tried to impose such a condition.

There are rumors that the (Allegre) radio station demand is the result of influence from quarters who may be bothered by the fact that the program is also open to various parties being formed in our country.

### Bosnia-Herzegovina Radio, TV Station Registered

LD1809184190 Belgrade TANJUG Domestic Service  
in Serbo-Croatian 1334 GMT 18 Sep 90

[Text] Sarajevo, 18 Sep (TANJUG)—The Republican Committee for Information today registered the first private radio and television station in Bosnia-Herzegovina. Mirsad Ibric and Nikola Borota are its proprietors.

Television Studio M, owned by Nikola Borota, and radio M, owned by Mirsad Ibric, should start broadcasting on 1 November. Before then, the Federal Administration for Radio Communications should allocate it frequencies. The owners claim that Sarajevo Radio and Television has already allocated frequencies for their radio and television station.

"We will broadcast only music. We will not have current affairs programs," Borota and Ibric announced.

### Bitola Radio, TV Programming Enhanced

LD1109102590 Belgrade TANJUG Domestic Service  
in Serbo-Croatian 0037 GMT 11 Sep 90

[Text] Bitola, 11 Sep (TANJUG)—Bitola, the second largest city in the Macedonia Socialist Republic, after Skopje, is well on the way in the very near future to becoming the headquarters of the second Macedonian Radio and Television center. The renovation and adaptation of a three-story house in the city center, which is

being functionally organized and equipped in accordance with the latest European standards for local radio and Television centers, is under way. Radio Bitola will have at its disposal four studios, while the new radio transmitter with a strength of three kilowatts is the most powerful local radio station on the European continent, so that Radio Bitola broadcasts are heard deep inside neighboring Greece and Albania. According to Mendo Petkovski, director of Radio Bitola, in parallel with modernizing the building, account is being taken that all the conditions are available so that in the near future a Bitola TV studio is also operational in this house, built in a typical Macedonian town style of the 19th century.

Radio Bitola broadcasts on work days now last an average of nine hours, while on Saturdays and Sundays [they run] from 1200 to 2000 hours [1000 GMT-18 00 GMT]. The studio is equipped with its own radio link which enables it to have direct and technically good links with Skopje Radio and TV and with all Yugoslav and European radio and TV studios.

Radio Bitola's renovation and modernization is being financed by Bitola citizens' voluntary contributions though an important part of expenditures are also covered by work organizations from Macedonia and further afield, which for years have been advertising their products and services on Radio Bitola.

A total of 20 employees will work in Radio Bitola. Radio Bitola is also characterized by the fact that its transmitter is positioned at an altitude of 2,600 meters, on the summit of [Mount] Pelister, and by the fact that soon it will have as many as two specialized commercial broadcasts.

### New Equipment for Knin Radio Station

LD1309165390 Belgrade TANJUG Domestic Service  
in Serbo-Croatian 1132 GMT 13 Sep 90

[Text] Knin, 13 Sep (TANJUG)—The reception of Serbian Radio Knin will soon improve in areas beyond the Knin municipality. Work started today in Knin on installing a new, 54-meter high ariel which will enable [words indistinct] responded to an appeal by Knin radio station.

Thanks to technical assistance from Belgrade Radio, Knin Radio Station has recently acquired improved equipment, including a sophisticated panel [words indistinct] is expected to obtain a live relay link.

The future and development plans of Knin local radio station will soon be discussed by the Chamber of Associated Labor of the Knin Municipal Assembly. The possibility of Knin's own television program and a local daily will also be considered.

In the meantime, the people of Knin will continue to tune to their local radio station as the only reliable source of information in recent months.



## ARGENTINA

### Menem Says Government 'Inflexible' on Privatization

PY1309215690 Buenos Aires *BUENOS AIRES HERALD* in English 13 Sep 90 p 1

[Text] (DYN)—President Carlos Menem said yesterday that his government would be "inflexible" when it comes to the guarantees established in the privatization of its public service utilities. Menem also warned that the process of "deregulation" of the national communications network should become a "means and not an end."

Menem gave the keynote address at the inauguration of the 3rd National Satellite Symposium organized by the Argentine Chamber of Satellite Development and Application. In his speech the President stressed his government's interest in stimulating the search for new paths which would "reinsert Argentina into the fascinating world of communications."

In another part of his address Menem reaffirmed his government's commitment to the deregulation process saying that "other countries have needed more time to overcome deep and painful crises and we, in a short time have done much, but we still have a lot to do."

### Illegal Operation of Television Channels Reported

PY1209172090 Buenos Aires *TELAM* in Spanish 2007 GMT 9 Sep 90

[Quotation marks as published]

[Text] Buenos Aires, 11 Sep (TELAM)—After meeting with President Carlos Menem at Government House today, Alejandro Massot, head of the Association of Argentine Television and Radio Stations (ATA), said that the president "has promised" to investigate the charges that some 50 television channels are illegally operating."

Massot told journalists that he conveyed to the president his "concern" of the appearance of those illegal channels, "which are creating the same irregular situation that has for a long time affected the radio broadcasting sector."

He admitted that the appearance of those stations "has been caused by the fact that society is not satisfied." He objects to the fact that "this should result in the illegal use of the few available frequencies."

According to Massot, Menem promised to consider the issue and to issue instructions to the appropriate organs, especially to the federal committee for broadcasting (COMFER) and to the communications undersecretariat.

On behalf of the Business Commission of Independent Mass Media (CEMCI) [Comision Empresaria de Medios de Comunicacion Independientes], Massot invited the

president to attend the opening ceremony of the annual CEMCI meeting, on a date that has not yet been set.

Massot was accompanied by COMFER chairman Leon Guinsburg and communications under secretary Raul Otero, reported that Menem has accepted the invitation.

## BOLIVIA

### Parabolic Antenna Network Planned for National TV

PY1509033490 La Paz *Radio Fides* in Spanish 2330 GMT 14 Sep 90

[Text] Migration Under Secretary Jose Luis Paredes has announced that under the current government's sovereignty plan for populating the country's border areas, Interior Ministry and Entel [National Communications Enterprise] officials will meet next week to see how to implement installation of a parabolic antenna system around the country. He said the purpose is to keep the population informed of developments in Bolivia.

[Begin Paredes recording] The national network of parabolic antennas is a project sponsored by the vice president of the Republic. We will seek financing from the Italian and Spanish Governments, or any other government that wants to cooperate. The idea is to install parabolic antennas at various sites and in the country's border areas so the population can watch the Bolivian channels and be informed about what is happening in our country. This is a very important project that should be implemented as soon as possible. To this effect, a meeting will be held next week between Entel officials and a group of experts to detail the project so financing can be sought. [end recording]

## CUBA

### Provincial Radio Station To Cut Broadcast Hours

FL1109115290 Havana *Radio Rebelde Network* in Spanish 1126 GMT 11 Sep 90

[Telephone report from Holguin Province by Ardenis Pablo on the "Haciendo Radio" program]

[Excerpt] [passage omitted] A number of important measures to use energy more rationally are being applied by the Holguin Integral Communications Enterprise, including reducing the provincial radio network's broadcast time by five hours a day. In addition, Radio Angulo will cease to go into network with municipal radio stations.

These decisions mean that 52 megawatts of electricity will be conserved for the rest of the year.

In addition, the workers of CMKO, Radio Angulo, have ratified their willingness to improve the quality of their programming in response to current needs.



**Havana Notes Soviet Rejection of Radio Marti Office**

*FL2109234390 Havana Radio Rebelde Network in Spanish 2317 GMT 21 Sep 90*

[From the "Exclusivo" program]

[Text] The Press Directorate of the Soviet Foreign Ministry has said that no Radio Marti correspondent has been officially accredited to Moscow, as was recently announced in Miami by the director of the anti-Cuban radio station.

(Karil Katavkin) said that his ministry is against the establishment of a Radio Marti office in Moscow, which would be financed by the U.S. Government and directed against Cuba. The official said that the stories sent to the anti-Cuban radio station by Soviet citizen (Yuri Mitunov) and Colombian citizen Armando Perez have nothing to do with improving Soviet-U.S. relations, as was suggested by Rolando Borrachea, director of the worm radio station.

(Mitunov) is known as a correspondent in Moscow press circles and as a Radio Libertad correspondent without official accreditation. (Mitunov) was expelled by Radio Moscow. He is also known as an active member of the Democratic Union, an anti-communist group that emerged after the start of perestroika.

The Colombian, Armando Perez, is not known as a journalist, much less as a technical collaborator for foreign correspondents in Moscow.

**DOMINICAN REPUBLIC****Modern Communications Station Inaugurated in Santiago**

*FL2109173690 Santo Domingo Radio-Television Dominicana Radio Network in Spanish 1600 GMT 21 Sep 90*

[Text] At a cost of \$10 million, the most modern land station for voice transmissions by satellite was inaugurated in the Altos de Virella sector of Santiago.

The keynote speech at the ceremony was made by Ernest Berry, executive vice president of the Dominican Telephone Company, while Father Carlos Rodriguez of the Santiago Archbishopric gave the invocation.

Berry said that the expansion and modernization of the communications network makes a significant contribution to the country's development. He highlighted the role of telecommunications in the socioeconomic development of peoples.

**EL SALVADOR****FMLN Protests Jamming of Radios Venceremos, Farabundo Marti**

*PA2009173790 (Clandestine) Radio Venceremos in Spanish to El Salvador 0000 GMT 20 Sep 90*

[Farabundo Marti National Liberation Front (FMLN) bulletin, dated 19 September]

[Text] The FMLN reports to the Salvadoran people, social organizations, political parties, and to international public opinion:

1. Coinciding with the recent round of talks in San Jose, Costa Rica, Alfredo Cristiani's regime and the Armed Forces have increased their jamming of FMLN radio broadcasts.

2. Despite agreements for the mutual respect of free expression of ideas, the regime has begun jamming Radio Venceremos and Radio Farabundo Marti FM broadcasts.

3. We believe that the purpose of this jamming is to prevent Salvadorans from learning of the FMLN peace proposals and to prevent the people from learning about the alarming increase in murders and arrests of civilians by the Army, paramilitary and repressive units.

4. The regime's repeated behavior not only shows its clumsiness in handling ideas, but its extreme political shortcomings. The regime cannot tolerate our ideas, despite their huge machinery for psychological aggression and disinformation.

5. We reject the regime's latest sample of totalitarian thinking and we demand that the jamming of our radio broadcasts cease. We call upon the people to reject this antidemocratic behavior. We call upon international public opinion to demand social justice from the Cristiani regime and the Armed Forces and for them to end their persecution of democratic ideas.

[Signed] Farabundo Marti National Liberation Front. 19 September 1990.

**PANAMA****Journalism Law Experts Discuss Ownership of Country's Media**

*PA1509040990 Panama City LA PRENSA in Spanish 4 Sep 90 p 15A*

["Special report for LA PRENSA" by Franklin Bosquez D'Giovanni]

[Excerpts] When a dozen Panamanians met recently to discuss the future of the laws regulating journalism and the media in our country, they all agreed in many and varied fields, the sole exception being—as it has always

been—the determination of how and who will decide who is fit to practice journalism in Panama.

Experts in various media participated in a two-day roundtable on journalistic legislation held at the Marriott Caesar Park Hotel. The roundtable was sponsored by the Central American Program of Journalism of Florida International University (FIU). [passage omitted]

In answer to a question on which media are currently in the hands of the state, National Media Director Edwin Cabrera said:

With the exception of the Panama, Darien and Cocle Provinces, Radio Nacional has relay stations in the capitals of each of our remaining provinces. Alonso Pinzon is the manager of what is still known as the State Radio System (SER). The government's decision on the future of Radio Nacional (whether it will remain as it is now or whether it will be sold or leased) is still unknown. SER is part of the Presidency and if the radio system facilities are sold, the transaction will not include the transmission frequencies.

Panavision Television, Channel 5, changed owners at the same pace as the presidents appointed by the military dictatorship were changed. The National Financial Corporation (COFINA), which is a government institution, seized a large part of this television station's equipment because the loans granted to Panavision, which totaled in the millions, "were never paid off." The rest of the equipment is in the hands of the station's employees, who demand the payment of their labor benefits.

The Catholic Church, as an organization like many others, has expressed its need to have a television station to disseminate its faith through television. It is known that there is foundation called FeTV presided over by Panama Archbishop Monsignor Marcos McGrath.

The GACETA OFICIAL is owned by the state, but as is known, it is a paper that publishes laws, decrees, and regulations in a detailed and specific manner.

Television Channel 11, an educational television station, is also owned by the state but jointly run by the Education Ministry and the National University of Panama. Its entire status is currently being revised because this station "was subject to political manipulation." The Japanese Government, which sponsors Channel 11, has stated that if we want the Japanese technical cooperation to continue, the television station cannot become a commercial station. At present, it has been proposed that this station operate under a board of trustees in which the state would be a minority member.

There is no indication that Channel 5 and Channel 11 could be merged.

VISAT, the company that handles cable television in Panama, has also been run according to the criteria of the presidents appointed by the military dictatorship. For that reason, this company's license and the license of Channel 14 (the cable television system of the U.S. Southern Command Armed Forces stationed in the Panama Canal area) have both been described as "corrupt." Neither of these two frequencies "has ever been granted." The legal representative of VISAT is Manuel Cohen Salerno.

Channel 2 or Televisora Nacional (TVN) has had several legal representatives, because during the last few years it has faced situations similar to those experienced by VISAT and Channel 5. It is known that the Peninsula Holding Company purchased the shares of this television station. Thus far, it has not been detected that the state invested money in this television station, although the final word on this will be given by the Comptroller General's Office. [passage omitted]

## ALGERIA

**Telecommunications Developments in Tindouf Described**

90WT0147A Algiers EL MOUDJAHID in French  
23 Jul 90 p 5

[Article by R. Berrabah: "Tindouf: Isolation Conquered"; first paragraph is EL MOUDJAHID introduction]

[Text] Mr. Hamid Sidi Said, post office and telecommunications minister, will preside over the semi-annual managers' meeting of the P.O. and T. Ministry today and tomorrow in its annex amphitheater. The meeting's agenda will essentially deal with a 1990 report of first-semester activities (stated goals). The following points will be discussed:

- no progress at the end of the first semester toward 1990 production goals;
- an analysis of shortfalls and measures taken to correct them;
- investments.
- quality of services in the post office, financial divisions, and telecommunications;
- payment collection in telecommunications divisions.

Tindouf wilaya, which covers 159,000 square kilometers, is undergoing sweeping changes. Thanks to different investments made in the district since it was promoted to wilaya status in 1984, this southwestern region has been transformed into a large construction site, the harbinger of better tomorrows. Weary gestures and incessant questions have given way to an unmistakable optimism about the development under way in the wilaya, where expansion of the postal and telecommunications sector and modernization of its equipment has ended the isolation of the local people.

The postal and telecommunications sector has done a good job of satisfying the communications needs of the people, part of an overall strategy to combat regional imbalances. Tindouf wilaya ranks first nationally in postal and telecommunications service.

Indeed, while the 1990 national goal is one post office for every 9,000 inhabitants, Tindouf wilaya has one per 4,080 inhabitants. Telephone availability is 8.95 lines per 100 inhabitants.

The remarkable effort to open up the region involved laying a cable linking Tindouf to Bechar (802 km).

The wilaya's telephone customers were then hooked up to the national and international dial-up network. The project, which was wholly funded by Algerian money, required large investments. Its maintenance however, which requires adequate resources (all-terrain vehicles, mobile radio, etc.), is continually monitored despite natural constraints and the great distances to be surveyed.

The project made it possible to provide telephone and television service to all localities between Tindouf and Bechar.

The impact of this, which hardly needs amplification, is the pride of the wilaya. The local people are very satisfied and rightly appreciate the growing interest in Algeria's southern wilayas in general and in Tindouf in particular.

Stepped-up measures to combat isolation and to achieve a balanced level of infrastructures among different wilayas have resulted, in rural areas, in telephone and television link-ups in Oum El Assel (100-percent automated) and Hassi Khebbi. The latter are located between Tindouf and Bechar.

In the wilaya seat, 18 public telephone booths have been put into service in densely populated neighborhoods; others are being installed to meet the needs of a socially changing local population.

A look at the general postal and telephone situation points up the efforts made in Tindouf wilaya, where the citizens' aspirations are taken into account in planning for the future.

The ministry is working zealously to complete installation of a dense, balanced, and harmonious network to provide full coverage of the wilaya.

The wilaya's current infrastructure consists of four post offices, 19 telecommunications centers, and four general-channel facilities. Large-scale projects have been initiated to upgrade it.

The latter include a first-class main payment station, a lines and technical installations division, and a post office. The first two projects have already gotten under way.

In addition, there are plans to build a post office and a satellite telecommunications station in each of the border towns of Gara-Djebilet and Hassi-Mounir. The projects aim to end the isolation of border areas, which will have telephones and television broadcasts.

A new underground telephone network has been built in the wilaya seat, where cable-laying is complete.

To meet the demand for telephones, 2,700 lines have been distributed. This new project, slated to expand before the end of the year, is part of the program to renovate, modernize, and extend urban networks.

The postal and telecommunications sector also has other important projects to its credit, among them the installation of a telephone network in Oum El-Assel, a commune seat located 170 km from Tindouf. Telephone service is fully automated there thanks to the installation of a 200-line concentrator.

Local postal and telecommunications officials are currently still concerned with improving the quality of



services. The projects that have been and will be carried out in Tindouf wilaya clearly express Algeria's collective will to give concrete form to the sociocultural development of people in the country's remotest areas.

## EGYPT

### 'Voice of the Arabs' Extends Transmissions

NC2009192890 Cairo MENA in Arabic 1605 GMT  
20 Sep 90

[Text] Cairo, 20 Sep (MENA)—It has been decided to extend the transmission of "the Voice of the Arabs" radio, the major Arab political service dealing with the (Gulf) crisis in the Arab homeland, to 24 hours daily. It also has been decided that the Voice of the Arabs will broadcast on three mediumwaves instead of one as at present. This means the addition of two mediumwaves to its shortwaves enabling it to operate nonstop all day long and cope with the time difference in the Arab East and Arab Maghreb states.

Information Minister Safwat al-Sharif announced this decision today following the conclusion of a meeting of the information policies committee under his chairmanship. The committee discussed the rearrangement of the broadcasting frequencies to conform with the media dealing with the Gulf crisis and improve the effect of Egyptian broadcasting in the Arab area by increasing the capacity of its operating frequencies to ensure a fully clear reception with high technical efficiency.

The committee has also decided to allocate a new medium independent and strong frequency to transmit the Nile Valley and Palestine broadcasts at the same times which were allocated for them on the Voice of the Arabs frequency. The Voice of the Arabs broadcasting time is thus increased by eight and a half hours daily enabling it to carry out its information role at this stage.

Al-Sharif added that it has been decided in the light of this new broadcasting policy to amend the times of transmission of the Middle East (Al-Sharq al-Awsat) broadcasting station which will begin its noon transmission at 1300 instead of 1200. He further said that it has been decided that the Middle East broadcasting station will carry a new three-hour news and political program from midnight until three in the morning. He explained that reception is clear in the Arab Maghrib during this period and fits with the time difference in this area because the station can be heard there from 2200 at night until 0100 in the morning.

The information minister said that it has also been decided that the general program (Cairo Domestic), which broadcasts 24 hours daily, will use highly powerful transmitters backed by 22 boosters to cover new areas in the neighboring Arab regions including the Gulf area and the Arab Maghreb states. Al-Sharif added that these decisions will be implemented as of this Saturday.

The meeting was attended by the heads of broadcasting, the radio engineering department, and various radio networks.

The following is a schedule of the changes made to the Egyptian broadcasting network's frequencies and their time of transmission.

Broadcasting Station	Wavelength	Frequency	Duration
Voice of the Arabs	483.9 Meters	621 KHZ	24 Hours
	298 Meters	1008 KHZ	0800-1200
			1800-0600
	271 Meters	1107 KHZ	0500-0700 for Arab Maghreb
			2000-0500 for Arab Maghreb
General Program	366 Meters	819 KHZ	24 hours
Middle East	388 Meters	774 KHZ	0600-0830
			1300-2400
			2400-0200 west
Nile Valley	271 Meters	1107 KHZ	0700-0800 south
			1700-7 south
Palestine	271 Meters	1107 KHZ	0800-1000 east
			1400-1700 east
Hebrew	298 Meters	621 KHZ	0600-0800
			1400-1800

### Alexandria Television Experimental Transmission Soon

NC2309183390 Cairo MENA in Arabic 1725 GMT  
23 Sep 90

[Text] Cairo, 23 Sep (MENA)—Engineer Faruq 'Amir, head of radio engineering in the Radio and Television Union, has stated that the Alexandria Television—channel five—installations will be completed on Tuesday and that it will be ready for inauguration and for starting transmission during the October victory anniversary celebrations.

Eng. 'Amir said that the Alexandria television will start experimental transmission in a few days, now that the new 175-meter-long tower imported from Austria has been set up by Egyptian engineers and technicians, using enormous cranes.

He said that the television transmission station that has been imported from Japan has a 20-kilowatt effective radiant energy [qudrah Ish'a'iyah mu'sththirah] that is equivalent to 700 kilowatts, and that it will cover Alexandria and al-Buhayrah.

Regarding the Alexandria television studios, he added, the music studio at Alexandria radio has been used and transformed into a television studio and it is ready to operate, now that the lighting equipment, electronic cameras, and video apparatuses have been installed. Channel five has been equipped with three mobile cameras in addition to the three fixed cameras at the studio.

Eng. 'Amir said that 40 engineers and technicians, who have received four-month theoretical and practical training at the engineering training institute in Cairo television studios, will work at the Alexandria television.

## INDIA

### Earth Stations To Facilitate Global Communications

90WD0673 Madras *THE HINDU* in English  
9 Aug 90 p 4

[Text] Madras, 8 August—The Videsh Sanchar Nigam Limited (VSNL) would set up an Intermediate Data Rate (IDR) earth station in Madras to provide direct international digital connection through satellite, Mr V. Babuji, chairman of VSNL, said here today.

Mr Babuji said the earth stations to be installed here and in Bombay next year would be full-fledged digital facility centres in terms of international communication for transmission and switching. The International Subscriber Dialing (ISD) Telephone Service which was available to only 17 countries in 1986 was now available to 176 destinations, he said.

The VSNL had also put into experimental service the Telex Mail box facility in Bombay which enabled foreign telex messages to be stored into the Telex mailbox for clearance by the Indian customers at their convenience. The introduction of T-Fax facility, developed with the help of a local company, helped the telex subscribers in the country send fax messages through telex machines, he said.

Participating in the Bhoomi pooja at the VSNL office here in connection with the installation of the Gateway Digital Switching System (GDS), Mr Babuji said the GDS introduced 3 years ago had become a success with customers increasingly using the facility to retrieve information stored in foreign data bases for their commercial use.

In order to save foreign exchange, the VSNL had entered into a tie-up with a U.S. company to provide data base access in a unified manner and at bulk rates which were much cheaper than the retail rates offered by individual data base companies. The technology growth on international telecommunications was very rapid and the systems installed this year became obsolete in 3 to 4 years. The VSNL had to be provided with systems and equipment which would be of international standards and also matched the facilities provided by foreign countries, he said.

### Fibre Optic Cable System

Mr Babuji said the VSNL had signed a Memorandum of Understanding for study and implementation of an international Fibre Optic Cable System known as SEA-ME-WE (Southeast Asia Middle-east Western Europe). This cable using the latest fibre optic technology would link Singapore to France with leading points at Bombay, UAE, Egypt, Italy etc. This project would be completed in 1994 and it had been included in the VSNL's Eighth 5-Year Plan. When completed, the cable would fill the gap in the Indian Ocean region and form part of the girdle of fibre optic cables around the globe, he said.

The VSNL had submitted the Eighth Plan to the Telecom Commission for Rs 405 crores, with a foreign exchange component of Rs 211 crores. The traffic revenue of the VSNL for 1989-90 was expected to be over Rs 300 crores, out of which over Rs 100 crores would be in foreign exchange. The international telephone service constituted 71.5 percent of the revenue, he said.

### Coastal Earth Station

Outlining the activities of the VSNL, Mr Babuji said a full-fledged Coastal Earth Station providing "Standard A" services of INMARSAT (International Maritime Satellite Organisation) would be completed in 1991 near Pune. The station would have initially voice, telex data, ship-to-shore facility, and later on sophisticated services such as land mobile applications and communication with smaller vessels would be included.

He said while the telephone traffic had been growing, there was a decline in telex traffic for the first time in 1988-89 due to increased use of fax service. The telex services were also declining at rates varying from 5 to 10 percent during the last 5 years.

Mr Babuji said in 1986 there were 960 international circuits in operation and they had grown into 2040 circuits by the beginning of 1990. The present Gateway Digital Switch of 450 international circuits in Madras would enable growth with an overall capacity of 2400 international terminations at Bombay, Delhi, Madras and Calcutta to enable the VSNL to double the capacity.

Mr P. Kandaiah, general manager, VSNL, Madras, welcoming the gathering, said Indian telecommunication would get a boost after the commissioning of the Gateway in Madras. India was among the countries using the advanced technology for switching, he said. Mr N. Parameswaran, deputy general manager, VSNL, Madras, proposed a vote of thanks.

### Space Expert Discusses Satellite Developments

90WD0672 Bombay *THE TIMES OF INDIA*  
in English 30 Jul 90 p 5

[Text] Bombay, 29 July—"The tremendous success of the Indian remote sensing satellite (IRS-1A) was unfortunately lost in the failure of other rockets," Prof Yash Pal, one of India's leading experts in space sciences, said here.

"I think one of the most important successes has been that of the IRS-1A and not many have appreciated how many technologies had been incorporated into this satellite," the eminent space scientist told newsmen last night after delivering the 28th convocation address at the Indian Institute of Technology, Powai.

Describing the IRS-1A as one of the best satellites of its kind, he said it had encouraged the development of imaging technologies and optics management, to name a few. "Its success unfortunately has been lost in the failure of other rockets," he regretted.

Referring to the Indian National Satellite System (INSAT), he said inputs from this country were mainly the conceptual design. "Our people showed that such a satellite could be built with so many users," he said.

About the master control facility at Hassan in Karnataka which is the INSAT control room, he said he was proud of the fact that Indians had taken upon themselves the challenge to build it indigenously.

Since it was operating successfully, he wondered why Indian scientists and engineers could not build earth stations all over the world.

In this connection, he said the Indian Space Research Organisation (ISRO) had successfully developed an imaging software known as ISROVISION which could be sold to other countries as well.

Reviewing the developments last year in the Bombay IIT, its director, Prof B. Nag, said during the convocation that the Department of Aeronautical Engineering had maintained a tempo of research and development and many projects sponsored by the Aeronautical Research and Development Board were being continued.

The Department of Electrical Engineering's design of a robot controller for a supersonic aircraft had reached an advanced stage. The Advanced Centre for Research in Electronics had proposed fast and computationally-efficient image registration techniques for a missile tracking problem.

He said that in order to provide up-to-date information on land use and land cover based on agroclimatic zones, the Department of Space had sponsored a project to the Institute's Centre of Studies in Resources Engineering for the preparation of maps in six districts of the west coast region. The data collected by the IRS-1A was being used for this purpose, he said.

Mr Mahalingam Easwaran (B. Tech. computer science and engineering) received the president of India medal for his outstanding performance amongst all students who had passed the B. Tech/M. Sc degree examination held in April this year.

### Center Approves New Broadcasting Service

90WD0668 Bombay THE TIMES OF INDIA  
in English 8 Aug 90 p 7

[Text] New Delhi, 7 August (UNI)—The Union Cabinet has approved the proposal for the introduction of a new Indian Broadcasting (programme) Service for the electronic media.

The approval was communicated today by the cabinet secretariat to the Information and Broadcasting Ministry, which has been asked to initiate further steps in this regard.

Information and Broadcasting Ministry sources said that the approval had been obtained "by circulation" in view of the urgency of the matter.

The proposed documents were circulated among the cabinet members at the request of the information and broadcasting minister, Mr P. Upendra and their consent was obtained thereon.

The step had been taken since there was no scheduled meeting of the cabinet in the last 3 days. The ministry would now expedite action to bring this service into being as soon as possible.

The sources also expressed "anguish" that the programme staff of All India Radio and Doordarshan had insisted on continuing their agitation despite being informed that the proposal was in the final stages of approval.

It was regrettable that programme staff association of AIR and Doordarshan President S.C. Nayak had issued a strongly-worded statement as late as yesterday, charging the ministry with misleading the staff, and also threatened a mass dharna and strike all over the country on 13 August they said.

## JORDAN

### Telecommunications With Iran Resumed 24 Sep

JN2509114690 Amman AL-RAY in Arabic  
25 Sep 90 p 1

[Text] Amman, AL-RAY—Telecommunications between Jordan and the Islamic Republic of Iran were resumed yesterday, Sunday, after a break of almost 10 years.

This step falls in line with recent developments and with the recently improved ties between Iraq and Iran in particular and between Iran and Arab states in general.



## PAKISTAN

**Second Badr Satellite Planned for Launch**

*BK1109055590 Islamabad Domestic Service in Urdu  
1500 GMT 10 Sep 90*

[Text] After the successful experiment of the country's first satellite Badr-I, Pakistan will launch its second satellite Badr-II into space within the next two years. Addressing a symposium on Pakistan's achievement in space technology in Lahore today, the Space and Upper Atmosphere Research Commission chairman, Dr. Mohammad Shafi Ahmad, said that very successful results have been achieved from Badr-I, adding that considerable information and data have been collected during its orbit in space.

## SAUDI ARABIA

**Television Extends Broadcasts to Kuwaiti Border**

*LD1909224790 Riyadh SPA in Arabic 2145 GMT  
19 Sep 90*

[Text] Ra's al Kafji [near the Kuwaiti border], 19 Sept. (SPA)—Television transmission to the town of Ra's al-Kafji has begun as part of the recently completed project designed to extend television broadcasts to all parts of the Kingdom and neighboring states.

Brother viewers and listeners in the town of Ra's al-Kafji and neighboring areas can direct television aerials toward the town of Ra's al-Kafji to receive the first channel on 51 UHF and the second channel on 53 UHF. They also can receive Holy Koran Radio on 88.2 mHz and the second program on 97.8 mHz. Both are on the FM wavelength.

### **'Molniya-3' Communication Satellite Launched**

*LD2109080690 Moscow TASS International Service  
in Russian 0737 GMT 21 Sep 90*

[Text] Moscow, 21 Sep (TASS)—In order to ensure the exploitation of a remote telephone and telegraph radio communication, relays of USSR Central Television programs to the 'Orbita' network stations, and international cooperation, another communication satellite 'Molniya-3' was launched by a 'Molniya' carrier rocket in the Soviet Union today.

The satellite has been placed in an orbit with the following parameters: apogee 40,782 km in the northern hemisphere; and perigee 454 km in the southern hemisphere. The period of revolution of the satellite is 12 hours 15 minutes, and orbital inclination 62.7 degrees.

Communication sessions via the 'Molniya-3' satellite will be carried out in accordance with a scheduled program.

### **Estonia Airls 'Alternative' Independent Radio Station**

*LD1409202290 Moscow TASS in English 2006 GMT  
14 Sep 90*

[By TASS correspondent Aleksandr Kharchenko]

[Text] Tallinn September 14 TASS—Nadezhda (Hope) is the name of a new independent radio broadcasting station that has gone on the air in Estonia.

People across the republic can tune in to the station in the morning and after working hours. Programmes are prepared by Intermovement activists, mainly Russian speakers residing in Estonia.

"For all our openness and pluralism," an Intermovement leader, Estonian People's Deputy Yevgeniy Kogan, told TASS, "we have no access to mass information outlets here in the republic. We understand that we cannot go on living like that".

"We feel the need to conduct work among people whom some forces seek to mislead and split. This is why an alternative radio broadcasting station was needed so badly," Kogan said.

"The USSR Communications Ministry has allotted frequencies for us to go on the air. The USSR State Committee for Television and Radio Broadcasting has tentatively registered us as its branch," Kogan said.

### **New Kazakh News Agency Created**

*LD1709133790 Moscow Domestic Service in Russian  
1100 GMT 17 Sep 90*

[Summary] A new Kazakh news agency called DANA PRESS has been registered today. The agency offers its consumers "objective information on international,

interregional, and interethnic links, on political economic social and spiritual life of the peoples and ethnic groups of the region". DANA PRESS has also received the right to be part of the all-union information market.

### **Russian Radio, TV Plans Disclosed**

*LD1209131690 Moscow World Service in English  
1100 GMT 12 Sep 90*

[Text] The president of Russia's television and radio company, (Oleg Poptsov), has said that its chief task is a frontal breakthrough to democracy in the republic. he disclosed in a press interview that Russian radio would become fully operational as of 15 October and television as of 1 January. Some of the Moscow and Leningrad tv celebrities have expressed a wish to join Russia's television and radio company, which according to (Poptsov) will be likely to become a joint stock enterprise.

### **Vilnius Condemns Planned Soviet Broadcasting Laws**

*LD1209135390 Vilnius International Service in English  
2130 GMT 11 Sep 90*

[Commentary by Radio Vilnius correspondent Jonas Buarys]

[Text] This week marks three important dates for Lithuania. Today, Lithuania celebrated the six-month anniversary of its declaration to restore independence. But if any champagne can be found it should be drunk judiciously, for its cost—of course cooperative prices—for a bottle are more than a week of pay. (?Of course), negotiations with Moscow are stalled before they even begun. On Wednesday, the two plus four talks begin in Moscow and demonstrations at the embassies of the United States, France, Britain, and the Germanies are expected to keep attention on these talks in hope that the borders of Lithuania, Latvia, and Estonia are not traded as bargaining chips to the Soviet Union in exchange for their agreement to unite the two Germanies under NATO.

Later the same evening in Washington DC a third important event will be taking place shortly after James Baker and Eduard Shevardnadze close up the opening day of card playing, and it too concerns the issue of survival. A spokesperson for Radio Vilnius will address the International Broadcasters' Conference, sponsored by the United States Voice of America. She will speak to the international broadcasting community, including representatives from Radio Moscow, about new draft laws under consideration in the Soviet Union, laws, which if enacted, would put an end to the very broadcast you are now hearing.

While behind the scenes in Moscow Wednesday afternoon diplomats may play a part in Lithuania's future, quite out in the open bureaucrats in that same city are proposing laws which would prohibit radio broadcasts

by republic stations into regions other than their immediate area. For Radio Vilnius these laws, if passed, would limit foreign broadcasts to Poland, or perhaps Scandinavia, but no further. As most listeners already know, Radio Vilnius is broadcast through Moscow and the station in Vilnius has little control over the quality of the transmission or if the programming is broadcast at all.

During the crisis this spring, particularly after the Soviets expelled foreign journalists from Lithuania, listeners reported the broadcast quality was poor and on many days virtually nonexistent. Even the suggestion of these new laws by Moscow is an insult to the profession of journalism and, like their intervention this spring into Lithuania with troops, tanks, and a continuing blockade, underscores that the glasnost and perestroika hyped by Moscow is more air than substance. It is yet another example of the contradiction between what Moscow says it does and what it actually does.

The schedule of tomorrow's International Broadcasters' Conference includes speakers from Radio Moscow. Perhaps they too were coming to protest at the same news censorship laws proposed by their employer.

For Radio Vilnius, this is Jonas Budrys.

#### **New 'Community' Television Program To Be Aired 29 Sep**

*LD2209162390 Moscow GOVORIT I POKAZYVAYET MOSKVA in Russian 24 Sep 90 No 39 p 17*

[Text] "Community" Video channel Moscow Television Second Channel, 1100-1900 [0700-1500 GMT] Saturday 29 September.

In working out the new structure for broadcasting, the "Community" creative association is presenting for you an experimental channel. It will occupy eight hours of air time. Here is what Igor Arbuzov, deputy chief editor of the Chief Editorial Office of programs for the RSFSR, has to say about it:

I think that not everyone is in a position to spend eight hours in front of the television screen indiscriminately. And I would like first of all to give you some reference marks. The four blocks of the program (each two hours long) will be separated by news bulletins. They will combine news of the day and report of the week. You will learn about the most important events; it is proposed that correspondents working in various regions of the country will tell you about them. In particular, a telebridge will link the Ostankino Studio with Minsk.

The first part of the bulletin will be informative and publicizing in character. Then, after a musical interlude,

a telebridge will link the regions of the Baltic, the Ukraine, and Central Asia. We would like to give this (second) part of the program (starting at 1300) the provisional title of "What Is the New Union Treaty To Be Like?"

The third part of the program, starting at 1500, will have a live on-the-air meeting between two cities—Moscow and Alma-Ata. It will focus on an area of particular attention: the countryside and its autumn concerns. We know that this year tractors, combines, and trucks remained idle on many farms as a result of shortages of fuel, lubricants, spare parts, and reapers. There were difficulties with transport. However, "Bread Grain Must Be Saved, But How?" What must be done in order to avoid losses in future? This part of the program will be conducted by A.A. Maslennikov, head of the press service of the USSR Supreme Soviet. It includes a film "Leaseholder" from the Amur Television Studio (about the peasant G. Aksenov from the village of Ovsyanka).

The final two hours (1700-1900) is devoted to questions of history, culture, and morality. In particular, we will be talking about the secrets of the so-called Bolshevik House, where Marina Tsvetayeva spent some months after her emigration.

In order to attract people of all ages to the screen we are preparing a musical section in the retrospective style.

And finally, the chief personage—the Man of the Month. We propose that this will be a major political figure. You will meet him at the start of the broadcast, then at the end he will reply to your questions (you will have the opportunity to ask them by direct telephone line; we will give you the number).

So that you do not find the program tiring (after all it is Saturday), we intend to include musical video clips, humoresques, and a short feature film.

Our correspondents in the localities and television journalists in the Union and autonomous republics will take part in the broadcast.

#### **Stepanakert TV Building Hit by Bomb Blast**

*LD1509100390 Moscow TASS in English 1008 GMT 15 Sep 90*

[Text] Stepanakert September 15 TASS—A television and radio centre was blown up in Stepanakert, the administrative centre of the Nagorno-Karabakh autonomous region, on Friday night.

According to preliminary reports, the bomb was planted in the centre's basement. No one was injured. The damage has been estimated at tens of thousands of rubles.



## EUROPEAN AFFAIRS

### Vision 1250 HDTV Interest Group Funded

90AN0397 Brussels TECH-EUROPE in English  
Aug-Sep 90 Section V pp 1-2

[Article: "HDTV: ECU 12.7 million Budget for EEIG 'Vision 1250'"]

[Text] In order to produce equipment such as studio material and cameras for high-definition television (HDTV) films and broadcasts, the brand new European Economic Interest Grouping (EEIG) called Vision 1250 is to be endowed with a budget of ECU 120 million for the period 1990-92, including ECU 12.7 million for 1991 from the EEC Budget.

"Vision 1250" was officially launched by Messrs Pandolfi and Dondelinger, European Commissioners for Research and the Audiovisual Sector respectively, on 11 July in Strasbourg and is the first EEIG designed to promote the European HDTV system (1,250 lines, 50 images a second) elaborated by European industrialists under the EUREKA technology project "EU 95".

#### "Vision 1250": 16 Partners; ECU 120 Million

A total of 16 companies, representing the various audiovisual sectors (industrialists, broadcasters, television stations) are taking part in this European consortium. The 16 companies which on 11 July in Strasbourg joined the 14 founder members are: BBC (UK), BHD TV (FRG), BSB (UK), BTS (FRG), France Telecom (France), Laser Creation (UK), Nokia (FRG), Philips (Netherlands), OFRT (France), RAI (Italy), SFP (France), Thames Television (UK), Thomson (France), Unitel (FRG), Bundespost (FRG), and TETE Vision (Spain).

The EEIG is to be allocated roughly ECU 120 million for the period 1990-92, including ECU 12.7 million in 1991 drawn from the EEC's budget (in 1990, the Commission's financial contribution will come from the EEC's RACE [Research and Development in Advanced Communication Technologies in Europe] and ESPRIT [European Strategic Program for R&D in Information Technologies] programmes) and about ECU 40,000 as part of the annual subscription paid in by each of the 16 companies.

#### HDTV in the Home After 1992

Europe's HDTV system is due to appear in European homes, albeit on a small scale, after 1992, and, according to Filippo Maria Pandolfi, should be operating on a major scale by 1995. Between now and then, it is proposed to conduct pilot projects, particularly during the Olympic Games in Albertville (Winter) and Barcelona (Summer) in 1992 together with the World Exhibition in Seville in the same year. These events will be covered by some 70 HDTV cameras and about a dozen vans will be fitted out for HDTV broadcasts.

Mr Dondelinger believes that there is no point in manufacturing equipment unless there are programmes. So the Commissioner in charge of the "artistic side" of broadcasting warmly welcomes this EEIG, which brings equipment and programme producers around the same table.

### Copernicus II Will Add GDR Telephone Links

90WT0137A Frankfurt/Main BLICK DURCH DIE  
WIRTSCHAFT 3 Aug 90 p 8

[Article by Wolfgang Engelhardt: "Copernicus's Immediate Mission Is to Improve Meagre GDR Telephone Links"]

[Text] Frankfurt, 2 August—With the smooth launch of the 37th Ariane rocket, which lifted the French TDF-2 satellite and the companion German DFS-2 into their orbits, the European Ariane might well have reaffirmed its position as the most successful satellite booster vehicle in the world today. In light of the breakneck speed of political developments in Germany, the Copernicus satellite program has meanwhile taken on a completely new role.

Now the two orbiting electronic relay stations will be used to improve the extremely meagre telephone links between the FRG and the GDR. Because of their experimental nature, the Copernicus satellites are unfortunately not suited to serve the urgent need for private telephone links between the two parts of the country.

The GDR also lacks the corresponding infrastructure of telephone lines. Dr. Heinz Uhlig, telecommunications director of the GDR postal service explains: "Instead, the almost 2,000 two-way channels on the two Copernicus satellites will be leased principally to customers in industry and trade who have set up branches in the GDR, for DM5,000 per month."

The second Copernicus satellite is identical in construction to the first "German Communications Satellite" (DFS), launched on 6 June 1989, whose transponder is now being used principally for broadcasting radio and television programs. In light of current political developments in Germany, DFS-2 will be employed mainly for sending telephone conversations and data transmissions between the FRG and the GDR.

In addition, some satellite lines will be made available to radio and television broadcasters in both parts of the country for transmitting current reports. One channel on each of the two Copernicus payloads is reserved for technical experiments in the newly opened frequency band of 20/30 gigahertz.

In its first year of operation DFS-1 has already surprised the experts with its extraordinarily good performance, which can be attributed primarily to the satellite's 3-axis orientation (which means the radio antennae as well) to the German target area, which has proven good beyond expectations. With a transmitting power of 54 dBW

[decibels referred to one watt], good individual radio and television reception is possible even with small parabolic dishes of about 75 cm diameter, such as those used to receive the much more powerful direct-transmitting TV satellites. Immediately after general operational tests DFS-2 will assume the following tasks:

- relaying two TV networks and taking over additional networks;
- the expansion of the 900 telephone links that already exist between the FRG, the GDR, and Berlin to 1,800, until fiber-optic line sections are complete;
- relaying two TV lines between the FRG, the GDR and Berlin in order to expand capacity and increase operational reliability;
- taking over the Dasat network for digital data transmission services, with an extension into the GDR;
- relaying TV programs from private suppliers for private user groups;
- the experimental use of TV reporting lines on the new 20/30 gigahertz frequency;
- continued development of data transmission technology to support industry, trade, and commerce;
- providing transmitting capacity for Telekom, the communications network of the FRG postal service, in order to bypass bottlenecks.

So, on the one hand, the DFS satellite system will be employed in the event of capacity problems in the entire area of telecommunications services between the two parts of Germany and in Berlin. On the other, interest in broadcasting TV programs by way of the Copernicus satellites has grown considerably because of the good broadcast quality, so that transmission reception is good even with smaller dishes in corners of the GDR with poor reception.

Franz Hiergeist of Telekom management at the Deutsche Bundespost in Bonn reports: "In view of the rapidly growing need for powerful communications links, we are considering launching the third Copernicus satellite, which was originally intended to be a backup on the ground, as soon as possible."

The Copernicus satellite consists of a cube-shaped central body measuring about 2 meters along each edge. The directional antennae, between 50 and 200 cm in diameter, are mounted on the face plate, and their "transmitting cone" is beamed mainly at German territory and the surrounding countries.

The attitude control system uses small steering jets and various sun and/or earth sensors as position references. Two large solar-cell paddles, with a span of 15.4 m, with a generating capacity of 1,500 watts, supply the satellite with electrical power. Launch weight of the satellite is

1,400 kg. After the apogee maneuver it weighs only 777 kg in orbit. Life expectancy is calculated at more than 10 years.

The communications equipment payload of the Copernicus satellite consists of 11 amplifying transponders, powerful traveling-wave tubes with the following technical characteristics: 3 90-megahertz transponders at 14/11 gigahertz with 54 dBW transmitting power; 7 44-megahertz transponders at 14/12 gigahertz with 54.2 dBW transmitting power; 1 90-megahertz transponder at 20/30 gigahertz with 51.9 dBW transmitting power.

The amazing electronic power of the Copernicus payload was achieved as the result of new technological designs during construction, for example, through the use of light, stable, carbon-fiber-reinforced materials in the central tube of the satellite structure and in the double-reflector antennae.

Extensive ground installations are needed to exploit the Copernicus payloads, both to control the satellite's equipment, and for the communications services themselves. A few weeks after the launch, DFS-2 will be positioned in a geostationary orbit at a height of 36,000 km above the equator at 28.5 degrees East, where it will be accessible to the ground stations around the clock.

There are two identical main relay centers in Usingen and Berlin with 18-meter antennae. The ground segment also includes 32 smaller ground radio terminals for what are known as the "new services" with antennae from 2.5 to 4.5 m in size, which are partially mobile and can be moved to new positions as needed on huge trucks.

A national industrial consortium is responsible for the DFS Copernicus satellite project, which was commissioned by the Bundespost in 1983. The consortium is headed by Siemens AG and includes the space or electronics concerns MBB, ANT and SEL. Cost of the program is put at DM 900 million, of which DM 600 million went to the construction of the 3 identical Copernicus satellites and DM 300 million for the extensive ground segment with numerous receiving and transmitting stations.

### Deutschlandfunk, Radio Saxony to Expand Ties

LD2009161890 East Berlin ADN International Service  
in German 1339 GMT 20 Sep 90

[Text] Cologne (ADN)—Deutschlandfunk and Radio Saxony are to expand their cooperation, Deutschlandfunk announced today. The radio station in the future Land of Saxony, which has already taken over individual Deutschlandfunk programs, would broadcast Deutschlandfunk's daily journalistic roundups entitled 'That was the Day' on weekdays in its new program, 'Saxony 2', beginning 3 October. After midnight, Radio Saxony would also broadcast Deutschlandfunk's programs until 0500. Beginning 21 September, Radio Saxony would

broadcast, on a trial basis, L'deutschlandfunk's entire program on the VHF frequency 101.8 MHz, from Oschatz.

Deutschlandfunk and Radio Saxony have been working together on an editorial basis since 1 July 1980 [as received]. Deutschlandfunk is also granting technical aid for the further development of the radio station in the future Land of Saxony into a public radio corporation.

### EC Adopts Open Network, Services Directives

90AN0398 Brussels EC PRESS RELEASE in English  
No IP(90) 589, 17 Jul 90 pp 1-3

[Article: "Dawn of a New Era in European Telecommunications—Member States Notified of Two New Directives"]

[Text] The Community member states have now received formal notification of two directives in the telecommunications sector which mark the beginning of a new era in European telecoms and the creation of a single market in this sector. The two measures relate together. Liberalisation will for the first time open up unlimited opportunities for the telecommunications industry, for business users and for the individual consumer as the range of services expands, made possible on a Community basis by the harmonisation of use and access conditions.

The directives are:

- The open network provision (ONP) framework directive, which facilitates access of private companies to the public networks and certain public telecommunications services;
- The Article 90 telecoms services directive, which establishes the right for independent undertakings to offer new services on the telecommunications network.

The ONP directive was adopted by the Council of Ministers at its meeting on 28 June. The Article 90 directive was a modification of the text agreed by the Commission in June 1989. The two should be seen in parallel. Until now, the provision of pan-European services has often been made impossible by the absence of harmonised technical interfaces, by divergent conditions of use or discriminatory tariff principles. The ONP directive lays down the principles for creating a European market by harmonising technical interfaces, it outlines conditions for supply and usage, and proposes the harmonisation of tariff principles. Technical harmonisation will be achieved in close collaboration with the European Telecommunications Standards Institute (ETSI).

The telecommunications industry has often found it difficult to provide new or alternative services on the existing national networks due to the existing monopoly rights which vary from country to country. The Article

90 directive limits the exclusive rights which can be given to the telecommunications monopolies, confining them to control of the basic network and voice telephony. This means that in future independent suppliers will have a guaranteed right of access to the national networks for new and developing services. This provision takes immediate effect for all value-added services. The resale of leased line capacity may be restricted until the end of 1992.

### The Major Features of the ONP Directive

1. Technical interfaces and service features will become the subject of European standards to be adopted by ETSI. These standards will in principle be of a voluntary nature. However, there is a presumption in favour of those who comply with the standard, i.e., service providers complying with that standard will be able to offer their services throughout the whole European Community. This is an important incentive, but no obligation to apply the standard.

2. If the working of this presumption in practice does not suffice to guarantee the interoperability of trans-frontier services within the Community, the Commission can make the reference to the standard in question mandatory to the extent strictly necessary to ensure such interoperability and to improve freedom of choice for users.

There will most probably not be any mandatory standards for value-added services since the procedure mentioned above was conceived for application to basic services such as packet-switched data transmission and the ISDN.

3. Since the Commission will have to improve the freedom of choice for users when making the reference to a European standard mandatory, this will not prevent a company that offers services related to mandatory standards also to offer other services.

4. The ONP Directive is a "framework" directive, to be followed by directives on specific issues. In this context the Council decided on the work programme in the field of ONP for the next years. In particular, this programme provides that:

- There will be specific ONP Directives for leased lines and voice telephony;
- By 1 January 1991, technical interfaces and services features concerning packet-switched data transmission and the ISDN will be established and could be made mandatory according to the procedure mentioned above;

ONP conditions will be adopted in the form of recommendations by 1 July 1991 and 1 January 1992 for packet-switched data transmission and the ISDN respectively;

- The Council will examine Commission proposals in 1992 and thereafter by which the recommendations mentioned above would be transposed into directives.



### The Services Directive

On 28 June 1989, the Commission had adopted a first draft of the Services Directive on the basis of Article 90(3) of the Treaty. However, the Commission postponed its entry into force so that the Council of Ministers would have sufficient time to adopt the Directive on Open Network Provision (the ONP Directive). Thus, the Commission wished to see the Services Directive entering into force on the same day as the ONP Directive.

The basic concept of the Services Directive is as follows:

The exclusive or special rights of the PTTs in the field of telecommunications services have to be abolished, with the exception of voice telephony and the network infrastructure. The Directive does not apply to the telex service and allows the member states to prohibit the simple resale of capacity of leased lines for a transitional period ending, in principle, on 31 December 1992.

As soon as this Directive enters into force, private service providers will be able to offer value-added telecommunications services in competition with the PTTs throughout the European Community. From 1 January 1993, they will also be able to offer basic service by way of the simple resale of capacity of leased lines.

The basic thrust of the liberalization of basic data transmission services from 1 January 1993 will be maintained. In addition, all value-added services will be liberalized immediately upon the Directive's entering into force.

At the meeting of the Council of Ministers of 7 December 1989, the Commission accepted, as part of a global compromise, to modify certain aspects of the Services Directive as follows:

1. The Commission may consider to prolong the transitory period during which the simple resale of capacity may be prohibited beyond 31 December 1992 up to 1 January 1994 for individual member states whose network for packet-switched data transmission services is not yet sufficiently developed.

2. The second change which the Commission accepted concerns the so-called "cahier de charges" (set of obligations) that may, under certain conditions, be imposed by a member state on private service providers to the extent that this is necessary to safeguard the operation of services of general economic interest which have been entrusted to a public undertaking in the sense of Article 90(2) of the Treaty. Such a set of obligations can only be used in the field of basic packet—or circuit—switched data transmission and only if the activity of competing service providers risks to obstruct the performance of the particular tasks assigned to the national PTT in question. In all other instances, the provision of basic data transmission services will be free from 1 January 1993.

It is provided that the Commission will scrutinize any set of obligations which a member state may want to propose. The member states will therefore have to notify their proposed sets of obligations at the planning stage by 30

June 1992 so that the Commission can check on their compatibility with Community law before they will be implemented.

3. The revised version of the Services Directive contains a review clause according to which the Commission will examine, in the course of the year 1994, the working of the provisions concerning the set of obligations with a view to determine whether they have to be changed. This permits the Commission to take account of the technological change on the one hand and possible distortions of trade between member states on the other hand.

### EC Proposes Aid to East Europe

90AN0339 Brussels EUROPE in English 15 Jun 90 p 8

[Report: "Telecommunications/Central and East Europe: European Commission Proposes a Series of Actions To Prevent the Weakness of the Sector From Hindering Economic Development in These Regions of Europe"]

[Text] Brussels, 14 June (EU)—In addition to the two communications on cooperation in the area of science and technology, the first with third countries in general and the second with the countries of Central and Eastern Europe in particular, the European Commission has adopted a communication on cooperation with these same countries in the specific area of telecommunications. The Commission notes that in the particularly important telecommunications sector, the weakness of Eastern and Central Europe, qualitatively as well as with regard to level of distribution, could considerably hinder efforts being made by these countries to achieve the change to a market economy.

According to ITU sources, telephone use in these countries was as follows in 1987:

Country	Principal Lines (in millions)	Population (in millions)	Number of Lines per 100 Inhabitants
Bulgaria (estimate 1986)	1.5	9	17
Czechoslovakia	2	15.6	13
GDR	1.7	16.6	10
Hungary	0.8	10.6	7
Poland	2.8	37.9	7
Romania (estimate 86)	1.9	22.0	8
Yugoslavia (estimate 86)	2.7	23.4	11
USSR (estimate 86)	29.5	283.6	10
EC figures	122.7	330	37
EFTA	16.3	32	51

In other words, Central and Eastern European countries are 20-25 years behind Western Europe. The delay is technological as well as related to telecom income levels.

which are, for example, ECU 1,015 million in Czechoslovakia, ECU 193 million in Poland, and ECU 239 million in Hungary, but ECU 69,387 million in the EEC, and ECU 11,122 million in EFTA.

The most striking problem is chronic underinvestment in the telecom sector in Eastern and Central Europe. Waiting lists are increasingly longer: 12 years in Hungary and 13 years in Poland, for instance. Telecommunications, however, is essential for successful trade, the Commission recalls.

At present, certain countries have already formulated investment and modernization plans, such as Hungary (ECU 5.3 billion for the creation of 27 lines/100 inhabitants in the year 2000) and Poland (ECU 13 billion to reach 13 lines/100 inhabitants); others are in the process of formulating plans. All have already been or will be subject to solicitations by suppliers. The Commission would like to warn them about the risk inherent to incoherent purchasing policies and that technical options are determined by trade possibilities. Major stakes exist, in particular, in regard to technical norms, which are also a crucial part of Community internal market policy, the Commission recalls.

The Commission proposes in its communication a series of actions whose principles can be summarized as follows:

1. Immediate assistance in the area of sources of information, services and methods of access to information in order to "actively" encourage their exchange;
2. Greater integration of these countries' telecom networks and services into the trans-European telecom system. The Commission suggests opening to these countries the TEDIS II programme and extending trans-European telecom services to them in areas such as health, transport, home-study courses, etc.;
3. The promotion of trade and technology transfer through the establishment in these countries of "Europe Houses" which would encourage familiarity with the EC's experience in these areas;
4. Study of programmes and projects that are potentially eligible for financial aid from the EC and the Group of 24.

#### **EC Council's Open Network Provision Directive**

90AN0367 Luxembourg OFFICIAL JOURNAL OF  
THE EUROPEAN COMMUNITIES in English  
No L192, 24 Jul 90 pp 1-9

[Article: "Council Directive: On the Establishment of the Internal Market for Telecommunications Services Through the Implementation of Open Network Provision"]

[Text] The Council of the European Communities,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100a thereof,

Having regard to the proposal from the Commission,

In cooperation with the European Parliament,

Having regard to the opinion of the Economic and Social Committee,

Whereas Article 8a of the Treaty stipulates that the internal market shall comprise an area without internal frontiers in which the free movement of services is ensured, in accordance with the provisions of the Treaty;

Whereas the Commission submitted a Green Paper on the development of the common market for telecommunications services and equipment, dated 30 June 1987, and a communication on the implementation of that Green Paper up to 1992, dated 9 February 1988;

Whereas the Council adopted on 30 June 1988 a resolution on the development of the common market for telecommunications services and equipment up to 1992;

Whereas the full establishment of a Community-wide market in telecommunications services will be promoted by the rapid introduction of harmonized principles and conditions for open network provision;

Whereas, since situations diff. and technical and administrative constraints exist in the Member States, this objective should be realized in stages;

Whereas the conditions of open network provision must be consistent with certain principles and must not restrict access to networks and services except for reasons of general public interest, hereinafter referred to as "essential requirements";

Whereas the definition and application of such principles and essential requirements must take full account of the fact that any restrictions of the right to provide services within and between Member States must be objectively justified, must follow the principle of proportionality and must not be excessive in relation to the aim pursued;

Whereas the conditions of open network provision must not allow for any additional restrictions on the use of the public telecommunications network and/or public telecommunications services except those restrictions which may be derived from the exercise of special or exclusive rights granted by Member States and which are compatible with Community law;

Whereas tariff principles should be clearly laid down to ensure fair and transparent conditions for all users;

Whereas this entire Directive must be read in the light of Annex III which lays down a work programme for the first three years;

Whereas the establishment of harmonized conditions of open network provision must be a progressive process and must be prepared with the assistance of a committee composed of representatives of the Member States, which consults the representatives of the telecommunications organizations, the users, the consumers, the manufacturers and the service providers; whereas this process must also be open to all parties concerned and therefore sufficient time must be given for public comment;

Whereas the Community-wide definition of harmonized technical interfaces and access conditions must be based on the definition of common technical specifications based on international standards and specifications;

Whereas work to be undertaken in this area must take full account, *inter alia*, of the framework resulting from the provisions of Council Directive 83/189/EEC of 28 March 1983 laying down a procedure for the provision of information in the field of technical standards and regulations, as last amended by Directive 88/182/EEC, Council Directive 86/361/EEC of 24 July 1986 on the initial stage of mutual recognition of type approval for telecommunications terminal equipment and Council Decision 87/95/EEC of 22 December 1986 on standardization in the field of information technology and telecommunications;

Whereas the formal adoption on 12 February 1988 of the status of the European Telecommunications Standards Institute (ETSI) and of the associated internal rules has created a new mechanism for producing European telecommunications standards;

Whereas the Council in its resolution of 27 April 1989 on standardization in the field of information technology and telecommunications supported the work of ETSI and invited the Commission to contribute to the coherent development of ETSI and lend it its support;

Whereas the Community-wide definition and implementation of harmonized network termination points establishing the physical interface between the network infrastructure and users' and other service providers' equipment will be an essential element of the overall concept of open network provision;

Whereas Commission Directive 88/301/EEC of 16 May 1988 on competition in the markets in telecommunications terminal equipment requires Member States to ensure that users who so request are given access to network termination points within a reasonable time period;

Whereas one of the principal aims of the establishment of an internal market in telecommunications services must be the creation of conditions to promote the development of Europe-wide services;

Whereas, in the above mentioned resolution of 30 June 1988, the Council considered the taking fully into account of the external aspects of Community measures on telecommunications to be a major policy goal;

Whereas the Community attaches very great importance to the continued growth of cross-border telecommunications services, to the contribution that telecommunications services provided by companies, firms or natural persons established in a Member State may make to the growth of the Community market, and to the increased participation of Community service providers in third country markets; whereas it will therefore be necessary, as specific Directives are drawn up, to ensure that these objectives are taken into account with a view to reaching a situation where the progressive realization of the internal market for telecommunications services will, where appropriate, be accompanied by reciprocal market opening in other countries;

Whereas this result should be achieved preferably through multilateral negotiations in the framework of GATT, it being understood that bilateral discussions between the Community and third countries may also contribute to this process;

Whereas this Directive should not address the problems of mass media, meaning problems linked to broadcasting and distribution of television programmes via telecommunications means, in particular cable television networks, which need special consideration;

Whereas neither should this Directive address the question of communication via satellite for which, according to the above mentioned Council resolution of 30 June 1988, a common position should be worked out;

Whereas the Council, on the basis of a report which the Commission is to submit to the European Parliament and the Council, and in accordance with Article 100b of the Treaty, will review, during 1992, any remaining conditions for access to telecommunications services which have not been harmonized, the effects of these conditions on the workings of the internal market for telecommunications services, and the extent to which this market needs to be further opened up,

Has adopted this directive

#### Article 1

1. This Directive concerns the harmonization of conditions for open and efficient access to and use of public telecommunications networks and, where applicable, public telecommunications services.

2. The conditions referred to in paragraph 1 are designed to facilitate the provision of services using public telecommunications networks and/or public telecommunications services, within and between Member States, and in particular the provision of services by companies, firms or natural persons established in a Member State other than that of the company, firm or natural person for whom the services are intended.



## Article 2

For the purposes of this Directive:

1. "Telecommunications organizations" means public or private bodies, to which a Member State grants special or exclusive rights for the provision of a public telecommunications network and, where applicable, public telecommunications services.

For the requirements of this Directive, Member States shall notify the Commission of the bodies to which they have granted special or exclusive rights;

2. "Special or exclusive rights" means the rights granted by a Member State or a public authority to one or more public or private bodies through any legal, regulatory or administrative instrument reserving them the right to provide a service or undertake an activity;

3. "Public telecommunications network" means the public telecommunications infrastructure which permits the conveyance of signals between defined network termination points by wire, by microwave, by optical means or by other electromagnetic means;

4. "Telecommunications services" means services whose provision consists wholly or partly in the transmission and routing of signals on a telecommunications network by means of telecommunications processes, with the exception of radio broadcasting and television;

— "Public telecommunications services" means telecommunications services whose supply Member States have specifically entrusted *inter alia* to one or more telecommunications organizations;

5. "Network termination point" means all physical connections and their technical access specifications which form part of the public telecommunications network and are necessary for access to and efficient communication through that public network;

6. "Essential requirements" means the non-economic reasons in the general interest which may cause a Member State to restrict access to the public telecommunications network or public telecommunications services. These reasons are telecommunications services. These reasons are security of network operations, maintenance of network integrity and, in justified cases, interoperability of services and data protection.

Data protection may include protection of personal data, the confidentiality of information transmitted or stored as well as the protection of privacy;

7. "Voice telephony" means the commercial provision for the public or direct transport of real-time speech via the public switched network or networks such that any user can use equipment connected to a network termination point to communicate with another user of equipment connected to another termination point;

8. "Telex service" means the commercial provision for the public of direct transport of telex messages in accordance with the relevant "Comite Consultatif International Telegraphique et Telephonique" (CCITT) recommendation via the public switched network or networks, whereby any user can use equipment connected to a network termination point to communicate with another user using another termination point;

9. "Packet- and circuit-switched data services" means the commercial provision for the public of direct transport of data via the public switched network or networks such that any equipment connected to a network termination point can communicate with equipment connected to another termination point;

10. "Open network provision conditions" means the conditions, harmonized according to the provisions of this Directive, which concern the open and efficient access to public telecommunications networks and, where applicable, public telecommunications services and the efficient use of those networks and services.

Without prejudice to their application on a case-by-case basis, the open network provision conditions may include harmonized conditions with regard to:

— Technical interfaces, including the definition and implementation of network termination points, where required;

— Usage conditions, including access to frequencies where required;

— Tariff principles;

11. "Technical specifications", "standards" and "terminal equipment" are given the same meaning for those terms as in Article 2 of Directive 86/361/EEC.

## Article 3

1. Open network provision conditions must comply with a number of basic principles set out hereafter, namely that:

— They must be based on objective criteria;— They must be transparent and published in an appropriate manner;— They must guarantee equality of access and must be non-discriminatory, in accordance with Community law.

2. Open network provision conditions must not restrict access to public telecommunications networks or public telecommunications services, except for reasons based on essential requirements, within the framework of Community law, namely:

— Security of network operations;— Maintenance of network integrity;— Interoperability of services, in justified cases;— Protection of data, as appropriate.

In addition, the conditions generally applicable to the connection of terminal equipment to the network shall apply.

3. Open network provision conditions may not allow for any additional restrictions on the use of the public telecommunications networks and/or public telecommunications services except the restrictions which may be derived from the exercise of special or exclusive rights granted by Member States and which are compatible with Community law.

4. The Council, acting in accordance with Article 100a of the Treaty, may, if necessary, modify the points set out in paragraphs 1 and 2.

5. Without prejudice to the specific Directives provided for in Article 6 in so far as the application of the essential requirements referred to in paragraph 2 of this Article may cause a Member State to limit access to one of its public telecommunications networks or services, the rules for uniform application of the essential requirements, in particular concerning the interoperability of services and the protection of data, shall be determined, where appropriate, by the Commission, in accordance with the procedure laid down in Article 10.

#### Article 4

1. Open network provision conditions shall be defined in stages under the procedure set out hereafter.

2. Open network provision conditions shall concern the areas selected in accordance with the list in Annex I.

The Council, acting in accordance with Article 100a of the Treaty, may, if necessary, modify this list.

3. Using the list referred to in paragraph 2, the Commission shall draw up a work programme each year, under the procedure laid down in Article 9.

4. for the work programme referred to in paragraph 3, the Commission shall:

a. Initiate detailed analysis, in consultation with the committee referred to in Article 9, and draw up reports on the results of this analysis;

b. Invite, by publication of a notice to that effect in the *Official Journal of the European Communities*, public comment by all parties concerned on the reports on the detailed analysis provided for in subparagraph a. The period for submitting such comment shall be not less than three months from the date of publications of the said notice;

c. Request, where appropriate, the European Telecommunications Standards Institute (ETSI) to draw up European standards, taking account of international standardization as a basis for setting up, where required, within specified time limits, harmonized technical interfaces and/or service features. In so doing, ETSI shall

coordinate, in particular, with the Joint European Standards Institution CEN/CENELEC;

d. Draw up proposals for open network provision conditions in accordance with Article 3 and with the open network provision reference framework described in Annex II.

5. For 1990, 1991 and 1992 a work programme shall be drawn up in order to implement the guidelines in Annex III.

#### Article 5

1. Reference to European standards drawn up as a basis for harmonized technical interfaces and/or service features for open network provision according to Article 4(4)(c) shall be published in the *Official Journal of the European Communities* as suitable for open network provision.

2. The standards mentioned under paragraph 1 shall carry with them the presumption:

a. That a service provider who complies with those standards fulfills the relevant essential requirements, and

b. That a telecommunications organization which complies with those standards fulfills the requirement of open and efficient access.

3. If the implementation of European standards within the meaning of Article 5(2) appears inadequate to ensure the interoperability of transfrontier services in one or more Member States, reference to European standards may be made compulsory under the procedure laid down in Article 10, to the extent strictly necessary to ensure such interoperability and to improve freedom of choice for users. The procedure provided for in this paragraph may in no way affect the implementation of Articles 85 and 86 of the Treaty.

4. Where a Member State or the Commission considers that the harmonized standards mentioned under paragraph 1 do not correspond to the objective of open and efficient access, in particular the basic principles and the essential requirements referred to in Article 3, the Commission or the Member State concerned shall bring the matter before the committee referred to in Article 9, giving the reasons therefore. The committee shall deliver an opinion without delay.

5. In the light of the committee's opinion and after consultation of the standing committee set up by Directive 83/189/EEC, the Commission shall inform the Member States whether or not it is necessary to withdraw references to those standards from the *Official Journal of the European Communities*.

#### Article 6

Following the completion of the procedures set out in Articles 4 and 5, and acting in accordance with Article 100a of the Treaty, the Council shall adopt specific Directives establishing open network provision conditions including a time schedule for implementing them.

#### Article 7

The Council, acting in accordance with Article 100a of the Treaty, taking Article 8c of the Treaty into consideration, shall, where required, adopt measures for harmonizing declaration and/or licensing procedures for the provision of services via public telecommunications networks, with a view to establishing conditions in which there would be mutual recognition of declaration and/or licensing procedures.

#### Article 8

During 1992 the Council, on the basis of a report which the Commission shall submit to the European Parliament and the Council, shall review progress on harmonization and any restrictions on access to telecommunications networks and services still remaining, the effects of those restrictions on the operation of the internal telecommunications market, and measures which could be taken to remove those restrictions, in conformity with Community law, taking account of technological development and in accordance with the procedure provided for under Article 100b of the Treaty.

#### Article 9

1. The Commission shall be assisted by a committee of an advisory nature composed of the representatives of the Member States and chaired by the representative of the Commission.

The committee shall, in particular, consult the representatives of the telecommunications organizations, the users, the consumers, the manufacturers and the service providers. It shall lay down its rules of procedure.

2. The representative of the Commission shall submit to the committee a draft of the measures to be taken. The committee shall deliver its opinion on the draft, within a time limit which the chairman may lay down according to the urgency of the matter, if necessary by taking a vote.

The opinion shall be recorded in the minutes; in addition, each Member State shall have the right to ask to have its position recorded in the minutes.

The Commission shall take the utmost account of the opinion delivered by the committee. It shall inform the committee of the manner in which its opinion has been taken into account.

#### Article 10

1. Notwithstanding the provisions of Article 9, the following procedure shall apply in respect of the matters covered by Article 3(5) and Article 5(3).

2. The representative of the Commission shall submit to the committee a draft of the measures to be taken. The committee shall deliver its opinion on the draft within a time limit which the chairman may lay down according to the urgency of the matter. The opinion shall be delivered by the majority laid down in Article 148(2) of the Treaty in the case of decisions which the Council is required to adopt on a proposal from the Commission. The votes of the representatives of the Member States within the committee shall be weighted in the manner set out in that Article. The chairman shall not vote.

3. The Commission shall adopt the measures envisaged if they are in accordance with the opinion of the committee.

4. If the measures envisaged are not in accordance with the opinion of the committee, or if no opinion is delivered, the Commission shall, without delay, submit to the Council a proposal relating to the measures to be taken. The Council shall act by a qualified majority.

If on the expiry of a period of three months from the date of referral to the Council, the Council has not acted, the proposed measures shall be adopted by the Commission.

#### Article 11

1. Member States shall bring into force the laws, regulations and administrative provisions necessary in order to comply with this Directive before 1 January 1991 at the latest. They shall forthwith inform the Commission thereof.

2. Member States shall communicate to the Commission the texts of the provisions of national law which they adopt in the field governed by this Directive.

#### Article 12

This Directive is addressed to the Member States.

Done at Luxembourg, 28 June 1990.

For the Council The President M. Geoghegan-Quinn

#### ANNEX I

##### Areas for Which Open Network Provision Conditions May be Drawn Up in Accordance With Article 4

Areas shall be selected from the following list in accordance with the procedures laid down in Article 4:

1. Leased lines; 2. Packet- and circuit-switched data services; 3. Integrated Services Digital Network (ISDN); 4. Voice telephone service; 5. Telex service; 6. Mobile services, as applicable;



Subject to further study:

7. New types of access to the network, such as access, under certain conditions, to the circuits connecting subscriber premises to the public network exchange ("data over voice") and access to the network's new intelligent functions, according to progress on definition and technological developments;

8. Access to the broadband network, according to progress on definition and technological development.

## ANNEX II

### Reference Framework For Drawing Up Proposals on Open Network Provision Conditions in Accordance With Article 4(4)(d)

Proposals on open network provision conditions as defined in Article 2(10) should be drawn up in accordance with the following reference framework:

#### 1. Common Principles

In drawing up the conditions described in this Annex, due account will be taken of the relevant rules of the Treaty.

Open network provision conditions shall be drawn up in such a way as to facilitate the service providers' and users' freedom of action without unduly limiting the telecommunications organizations' responsibility for the functioning of the network and the best possible condition of communications channels.

Member States may, in accordance with Community law, take any measure enabling the telecommunications organizations to develop the new opportunities deriving from open network provision.

#### 2. Harmonized Technical Interfaces and/or Service Features

In drawing up open network provision conditions the following scheme should be taken into account for the definition of technical interfaces at appropriate open network termination points:

—For existing services and networks, existing interfaces should be adopted;

—For entirely new services or the improvement of existing services, existing interfaces should also be adopted, as far as feasible. When existing interfaces are not suitable, enhancements and/or new interfaces will have to be specified;

—For networks that are still to be introduced, but for which the standardization programme has already commenced, open network provision requirements falling within the terms of Article 3 should be taken into account when specifying new interfaces.

Open network provision proposals must, wherever possible, be in line with the ongoing work in the European

Conference of Postal and Telecommunications Administrations (CEPT), CCITT, ETSI, and CEN-CENELEC.

Work undertaken in this area should take full account of the framework resulting from the provisions of Council Directive 83/189/EEC of 28 March 1983 laying down a procedure for the provision of information in the field of technical standards and regulations, as last amended by Directive 88/182/EEC, Council Directive 86/361/EEC of 24 July 1986 on the initial stage of the mutual recognition of type approval by telecommunications terminal equipment and Council Decision 87/95/EEC of 22 December 1986 on standardization in the field of information technology and telecommunications.

Additional features will be identified where required. They may be classified as:

—Inclusive if they are provided in association with a specific interface and included in the standard offering.

—Optional if they can be requested as an option with regard to a specific open network provision offering.

Work shall include the drawing up of proposals for time schedules for the introduction of interfaces and service features, taking account of the state of development of telecommunications networks and services in the Community.

#### 3. Harmonized Supply and Usage Conditions

Supply and usage conditions shall identify conditions of access and of provision of services, as far as required.

They may include as applicable:

##### a. Supply conditions as applicable:

—Maximum provision time (delivery period);—Quality of service, in particular the quality of transmission;—Maintenance;—Network malfunction reporting facilities;

##### b. Usage conditions such as:

—Conditions for resale of capacity;—Conditions for shared use;—Conditions for interconnection with public and private networks.

Usage conditions may include conditions regarding access to frequencies, as applicable and measures concerning protection of personal data and confidentiality of communications, where required.

#### 4. Harmonized Tariff Principles

Tariff principles must be consistent with the principles set out in Article 3(1).

These principles imply, in particular, that:

—Tariffs must be based on objective criteria and especially in the case of services and areas subject to special or exclusive rights must in principle be cost-oriented, on the understanding that the fixing of the actual tariff level will continue to be the province of national legislation and is not the subject of open network provision conditions. When these tariffs are determined, one of the aims should be the definition

of efficient tariff principles throughout the Community while ensuring a general service for all,

—Tariffs must be transparent and must be properly published,

—In order to leave users a choice between the individual service elements and where technology so permits, tariffs must be sufficiently unbundled in accordance with the competition rules of the Treaty. In particular, additional features introduced to provide certain specific extra services must, as a general rule, be charged independently of the inclusive features and transportation as such,

—tariffs must be non-discriminatory and guarantee equality of treatment.

Any charge for access to network resources or services must comply with the principles set out above and with the competition rules of the Treaty and must also take into account the principle of fair sharing in the global cost of the resources used and the need for a reasonable level of return on investment.

There may be different tariffs, in particular to take account of excess traffic during peak periods and lack of traffic during off-periods, provided that the tariff differentials are commercially justifiable and do not conflict with the above principle.

### ANNEX III

#### Guidelines for Implementation of the Framework Directive Up To 31 December 1992

In an initial phase, and without prejudice to the procedures laid down in Article 4(2) and (3), work to be undertaken in 1990, 1991 and 1992 concerning Articles 4, 5 and 6 will implement the following priorities:

1. Adoption of specific Directives pursuant to Article 6 covering leased lines and the voice telephony service;

2. Implementation by 1 January 1991 of harmonized technical interface, and/or service features for packet-switched data services and ISDN (Integrated Services Digital Network); reference to such interfaces and features may be made compulsory before that date in accordance with the procedure set out in Article 5(3);

3. Adoption by the Council by 1 July 1991, acting on a proposal from the Commission, of a recommendation on the supply of technical interfaces, conditions of usage and tariff principles applying to provision of packet-switched data services complying with open network principles; this recommendation would in particular call on Member States to ensure that at least one such service was provided on their territory;

4. Adoption by the Council by 1 January 1992, acting on a proposal from the Commission, of a similar recommendation on ISDN;

5. Examination in 1992, with a view to its adoption, on a proposal from the Commission, of a specific Directive on packet-switched data services. That proposal should take into account the initial results of the implementation of the recommendation referred to in point 3;

6. Subsequent examination of a proposal for a Directive on ISDN. That proposal should also take into account the initial results of the implementation of the recommendation referred to in point 4.

#### EC Evaluates Trans-European Network Project

90AN0391 Brussels EUROPE in English  
1 Aug 90 pp 7-9

[Article: "Trans-European Networks/Commission Report: In Telecommunications, Progress Still Insufficient To Create Real European Market—Analysis of Failings—Problems and Possible Solutions"]

[Text] Brussels, 31 July 1990—In the intermediary report submitted to the Council on the Trans-European networks in the fields of transports, telecommunications, transport of gas and electricity and training, the European Commission notes that it is essential for the capacity offered by telecommunication services and infrastructures to be adapted in due course to meet the ever-growing demand which will result from the suppression of EC internal frontiers. The Commission feels that the impact of the internal market on the European economy and its competitiveness will depend to a large extent on the proper functioning of telematic networks. The implementation of the internal market will create new needs and these networks should make the exchange of necessary information possible:

a. Between Community institutions and national administrations; b. National administrations amongst themselves and within these administrations, and c. Between administrations and economic operators.

The Commission quotes an example: The Agriculture Council of 26 June requested the setting up of a computerised system for the exchange of information between veterinary services of the Member States in order to ensure enforcement of the EEC directive on veterinary and zootechnical inspections in intra-Community exchange of live animals. Another example: A new system of information exchange should be set up in order to enable effective control of intra-Community transactions to ensure the correct levying of VAT, when internal tax frontiers of the EC are lifted.

The achievement of what the Commission considers as the central nervous system of the Single Market comprises nevertheless certain difficulties. Due to the liberalization process of telecommunications which is currently in progress, the suppliers of services will not invest other than in profitable sectors; the main challenge is therefore to underline trans-European needs as soon as possible. Traffic within the Community today is still very limited in comparison with national traffic (on the

whole less than 10 percent) and it is difficult to have a clear picture of the outline of the European market which is being created. This is why, says the report, the trans-European telematic services have not exceeded the stage of limited bilateral agreements which are strictly minimum both as far as capacity and quality is concerned. These agreements complicate the establishment of trans-European services more than facilitating it as they settle difficulties with ad hoc remedies, frontier by frontier, which places almost insurmountable difficulties in the path of suppliers seeking to have access to the European market. The limited offer of trans-European services available and the unwieldiness and lack of uniformity in the administrative mechanisms puts a brake on the demand for such services as the user must meet costs which seem more considerable than the advantages expected from access to the Community market.

The Commission proposes two complementary solutions to make the Trans-European services market more attractive:

1. Reinforce EC action on availability so that the telematic systems networks be created as a superstructure on existing national systems and interconnected in a reliable manner with them. These superstructures should function thanks to "single counters" capable of guaranteeing, to suppliers of value-added services, the whole of the network's services throughout EC territory. For the Commission, the users of the traditional networks could set up such superstructures. The creation of a harmonized superstructure, however, by operators, will give rise to problems, in updating their cooperation, linked to competition rules, this being sometimes difficult to resolve. In the Commission's opinion an effort must be made to clarify the admissible solutions with respect to Community law. Another solution consists in the creation, by European service companies, of these trans-European superstructures;

2. Support the creation of a demand market for transboundary data exchange which would generate trans-Community traffic. The suppliers will only make "trans-European" investments if they are profitable. The Commission is aware that to be credible, support action should be backed by a real market proven to be in existence and developing, and not just on optimistic hopes which have not been put to the test.

The Commission recalls that it has proposed the launching of a specific programme relating to the development of telematic systems of general interest having a budget of ECU 380 million over four years (1990-94), included in the third framework programme of R&D. The priorities of this specific programme cover the four main chapters of trans-European networks: communication services, transport, healthcare and home-study training.

The chapter which is devoted to telecommunications raises problems and the remedies envisaged concern value added telecom services:

### 1. Electronic Mail Services and Computerised Data Exchanges (CDE)

*a. Impact of The Internal Market.* This service is the main communications tool to meet at least a part of the needs of public and private economic operators and for the management of the internal market. The Commission notes that its supply is not yet sufficient at European level even if its expansion is considerable (annual user growth 180 percent) and should lead to fivefold growth in transboundary traffic each year until 1994. The electronic mail service allows the exchange of non-structured data (ordinary documents) and structured CDE type data.

*b. The Problems.* There are not many problems concerning ordinary mail and the infrastructures which are already and which will be available towards the end of 1991 should make it possible to absorb forecast transboundary traffic. The degree of standardisation of electronic mail reached enables marketing of European products. There is, however, one drawback: interconnection between national networks still raises two problems concerning:

- user identification and
- transboundary invoicing.

The situation is less satisfactory for CDE. According to the Commission, rapid action is necessary to evaluate needs and identify national systems in order to meet these needs. The main difficulties will be:

- the choice of data,
- the choice of format of electronic documents to be exchanged and
- the adoption of common technical interfaces for the users of the same system.

*c. The solutions.* The Commission is closely studying the setting up, by public telecom operators, of an agreement memorandum on trans-European electronic mail fixing a coordinated calendar for implementation. The European standardisation bodies should complete as soon as possible the final technical specifications to standardise the service. EC action, which is still to be increased according to the Commission, is based upon the following programmes: INSIS [Interinstitutional Integrated Services Information System], STAR [Special Telecommunication Action for Regional Development], and IMPACT [Information Market Policy Action]. With regard to CDE, the development of which is subordinated to the existence of a single counter (common subscription and invoicing throughout the EC), the TEDIS [Electronic Data Interchange Systems] programme should give impetus to the development of the market as in the CADDIA [Automation of Data and Documentation in Imports/Exports and Agriculture] programme.



## 2. Videotex

*a. Impact of the Internal Market.* The videotex has developed satisfactorily, but is nevertheless concentrated above all in France where 5.2 million terminals are in operation out of six million in the EC as a whole. There is considerable potential for pan-European development, currently blocked by a certain number of problems.

*b. The Problems.* Trans-boundary applications come against difficulties due to the incompatibility of three different technical norms and different national administrative norms. Furthermore, the precise indications concerning the nature and importance of the trans-boundary market are for the most part inadequate and contribute to creating the wait situation currently prevailing in the EC.

*c. The Solutions.* As it is not possible to achieve a common norm, the Commission recommends the setting up of a European superstructure which would manage the technical and administrative differences of the Videotex system. It would also be of interest to identify the applications for which intra-Community investment can be justified (European electronic annual, for example).

## 3. Mobile Radiocommunications

*a. Impact of the Internal Market.* The "explosion" of demand due to a substantial drop in price should continue.

*b. The Problems.* The situation is not satisfactory, believes the Commission, as, on one hand, the national systems are saturated and, on the other, the incompatibility of technical choices carried out in the Member States constrains the user to possess as many different terminals as national services. The Commission fears that, in the face of the pressure of demand, certain Member States will be tempted to introduce services which have not been standardised at European level.

*c. The Solutions.* Firstly, determine a Community introduction strategy for the different EC mobile systems and stimulate the production of relevant norms. This step must be accompanied by the adoption of legislative provisions covering the setting up of systems. There already exist several recommendations for the coordinated introduction of the next generation of services (radio telephone, radio messages, wireless telephone) and directives reserving common radio frequency bands for these services. Public operators have signed agreement protocols for the creation of harmonised pan-European systems available between major urban centres as from 1991.

## 4. The Offer of ISDN Services

*a. Impact of the Internal Market.* The development of the pan-European ISDN is lagging somewhat behind, due in

part to the slow progress of the standardisation process at world level. However, there is already a proven demand for certain applications in the professional and consumer fields, and certain States have already started to offer ISDN services.

*b. The Problems.* They are twofold:

- insufficient availability of an adequate pan-European infrastructure
- lack of reliable indications concerning future market prospects.

*c. The Solutions.* Standardisation is underway within the European Telecommunications Standards Institute (ETSI). As regards the supply side, it is essential, according to the Commission, to make sure that national operators do not take initiatives anticipating future standardisation, which might then prove to be an obstacle to European harmonisation.

## 5. Wide-Band Telecommunications Services

*a. Impact of the Internal Market.* After the United States, Europe is now experiencing a booming market in the area of high-speed and high-volume transmission. The demand for wide-band channels increased by 45 percent in 1989 and even by 100 percent for the upper-range. This demand comes mostly from research centres and major professional users. This demand is transnational in nature. It is probable that a progressive integration of television and telecommunications will be observed in the future.

*b. The Problems.* The main one concerns the lack of an adequate European infrastructure. Trans-European services of advanced telecommunications have problems developing because of different national regulations and, in particular, the lack of a single outlet. The Commission notes nevertheless that suppliers whose financial origins are outside the Community already provide networks using leased lines.

*c. The Solutions.* For the Commission, the actions already undertaken must be continued: the promotion of cooperation between European operators in order to make available real advanced trans-European telecommunications services.

## EC Directive on Competition in Services Market

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THE EUROPEAN COMMUNITIES in English  
24 Jul 90 pp 10-16

[Article: "Commission Directive on Competition in the Markets For Telecommunications Services"]

[Text] The Commission of the European Communities,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 90(3) thereof,

**Whereas:**

1. The improvement of telecommunications in the Community is an essential condition for the harmonious development of economic activities and a competitive market in the Community, from the point of view of both service providers and users. The Commission has therefore adopted a programme, set out in its Green Paper on the development of the common market for telecommunications services and equipment and in its communication on the implementation of the Green Paper by 1992, for progressively introducing competition into the telecommunications market. The programme does not concern mobile telephony and paging services, and mass communication services such as radio or television. The Council, in its resolution of 30 June 1988, expressed broad support for the objectives of this programme, and in particular the progressive creation of an open Community market for telecommunications services. The last decades have seen considerable technological advances in the telecommunications sector. These allow an increasingly varied range of services to be provided, notably data transmission services, and also make it technically and economically possible for competition to take place between different service providers.

2. In all the Member States the provision and operation of telecommunications networks and the provision of related services are generally vested in one or more telecommunications organizations holding exclusive or special rights. Such rights are characterized by the discretionary powers which the State exercises in various degrees with regard to access to the market for telecommunications services.

3. The organizations entrusted with the provision and operation of the telecommunications network are undertakings within the meaning of Article 90(1) of the Treaty because they carry on an organized business activity, namely the provision of telecommunications services. They are either public undertakings or private enterprises to which the State has granted exclusive or special rights.

4. Several Member States, while ensuring the performance of public services tasks, have already revised the system of exclusive or special rights that used to exist in the telecommunications sector in their countries. In all cases, the system of exclusive or special rights has been maintained in respect of the provision and operation of the network. In some Member States, it has been maintained for all telecommunications services, while in others such rights cover only certain services. All Member States have either themselves imposed or allowed their telecommunications administrations to impose restrictions on the free provision of telecommunications services.

5. The granting of special or exclusive rights to one or more undertakings to operate the network derives from the discretionary power of the State. The granting by a

Member State of such rights inevitably restricts the provision of such services by other undertakings to or from other Member States.

6. In practice, restrictions on the provision of telecommunications services within the meaning of Article 59 to or from other Member States consist mainly in the prohibition on connecting leased lines by means of concentrators, multiplexers and other equipment to the switched telephone network, in imposing access charges for the connection that are out of proportion to the service provided, in prohibiting the routing of signals to or from third parties by means of leased lines or applying volume-sensitive tariffs without economic justification or refusing to give service providers access to the network. The effect of the usage restrictions and the excessive charges in relation to net cost is to hinder the provision to or from other Member States of such telecommunications services as:

- Services designed to improve telecommunications functions, e.g., conversion of the protocol, code, format or speed,
- Information services providing access to data bases,
- Remote data-processing services,
- Message storing and forwarding services, e.g., electronic mail,
- Transaction services, e.g., financial transactions, electronic commercial data transfer, teleshopping and telerepresentations,
- Teleaction services, e.g., telemetry and remote monitoring.

7. Articles 55, 56, and 66 of the Treaty allow exceptions on non-economic grounds to the freedom to provide services. The restrictions permitted are those connected, even occasionally, with the exercise of official authority, and those connected with public policy, public security, or public health. Since these are exceptions, they must be interpreted restrictively. None of the telecommunications services is connected with the exercise of official authority involving the right to use undue powers compared with the ordinary law, privileges of public power or a power of coercion over the public. The supply of telecommunication services cannot in itself threaten public policy and cannot affect public health.

8. The Court of Justice case law also recognizes restrictions on the freedom to provide services if they fulfill essential requirements in the general interest and are applied without discrimination and in proportion to the objective. Consumer protection does not make it necessary to restrict freedom to provide telecommunications services since this objective can also be attained through free competition. Nor can the protection of intellectual property be invoked in this connection. The only essential requirements derogating from Article 59 which could justify restrictions on the use of the public network are the maintenance of the integrity of the network, security

of network operations and, in justified cases, interoperability and data protection. The restrictions imposed, however, must be adapted to the objectives pursued by these legitimate requirements. Member States will have to make such restrictions known to the public and notify them to the Commission to enable it to assess their proportionality.

9. In this context, the security of network operations means ensuring the availability of the public network in case of emergency. The technical integrity of the public network means ensuring its normal operation and the interconnection of public networks in the Community on the basis of common technical specifications. The concept of interoperability of services means complying with such technical specifications introduced to increase the provision of services and the choice available to users. Data protection means measures taken to warrant the confidentiality of communications and the protection of personal data.

10. Apart from the essential requirements which can be included as conditions in the licensing or declaration procedures, Member States can include conditions regarding public-service requirements which constitute objective, non-discriminatory and transparent trade regulations regarding the conditions of permanence, availability, and quality of the service.

11. When a Member State has entrusted a telecommunications organization with the task of providing packet or circuit switched data services for the public in general and when this service may be obstructed because of competition by private providers, the Commission can allow the Member State to impose additional conditions for the provision of such a service, with respect also to geographical coverage. In assessing these measures, the Commission in the context of the achievement of the fundamental objectives of the Treaty referred to in Article 2 thereof, including that of strengthening the Community's economic and social cohesion as referred to in Article 130a, will also take into account the situation of those Member States in which the network for the provision of the packet or circuit switched services is not yet sufficiently developed and which could justify the deferment for these Member States until 1 January 1996 of the date for prohibition on the simple resale of leased line capacity.

12. Article 59 of the Treaty requires the abolition of any other restriction on the freedom of nationals of Member States who are established in a Community country to provide services to persons in other Member States. The maintenance or introduction of any exclusive or special right which does not correspond to the above mentioned criteria is therefore a breach of Article 90 in conjunction with Article 59.

13. Article 86 of the Treaty prohibits as incompatible with the common market any conduct by one or more undertakings that involves an abuse of a dominant position within the common market or a substantial part

of it. Telecommunications organizations are also undertakings for the purposes of this Article because they carry out economic activities, in particular the service they provide by making telecommunications networks and services available to users. This provision of the network constitutes a separate services market as it is not interchangeable with other services. On each national market the competitive environment in which the network and the telecommunications services are provided is homogeneous enough for the Commission to be able to evaluate the power held by the organizations providing the services on these territories. The territories of the Member States constitute distinct geographical markets. This is essentially due to the existing difference between the rules governing conditions of access and technical operation, relating to the provision of the network and of such services. Furthermore, each Member State market forms a substantial part of the common market.

14. In each national market the telecommunications organizations hold individually or collectively a dominant position for the creation and the exploitation of the network because they are the only ones with networks in each Member State covering the whole territory of those States and because their governments granted them the exclusive right to provide this network either alone or in conjunction with other organizations.

15. Where a State grants special or exclusive rights to provide telecommunications services to organizations which already have a dominant position in creating and operating the network, the effect of such rights is to strengthen the dominant position by extending it to services.

16. Moreover, the special or exclusive rights granted to telecommunications organizations by the State to provide certain telecommunications services mean such organizations:

a. Prevent or restrict access to the market for these telecommunications services by their competitors, thus limiting consumer choice, which is liable to restrict technological progress to the detriment of consumers;

b. Compel network users to sue the services subject to exclusive rights, and thus make the conclusion of network utilization contracts dependent on acceptance of supplementary services having no connection with the subject of such contracts.

Each of these types of conduct represents a specific abuse of a dominant position which is likely to have an appreciable effect on trade between Member States, as all the services in question could in principle be supplied by providers from other Member States. The structure of competition within the common market is substantially changed by them. At all events, the special or exclusive rights for these services give rise to a situation which is contrary to the objective in Article 3(f) of the Treaty, which provides for the institution of a system ensuring that competition in the common market is not distorted, and requires *a fortiori* that competition must not be



eliminated. Member States have an obligation under Article 5 of the Treaty to abstain from any measure which could jeopardize the attainment of the objectives of the Treaty, including that of Article 3(f).

17. The exclusive rights to telecommunications services granted to public undertakings or undertakings to which Member States have granted special or exclusive rights for the provision of the network are incompatible with Article 90(1) in conjunction with Article 86.

18. Article 90(2) of the Treaty allows derogation from the application of Articles 59 and 86 of the Treaty where such application would obstruct the performance, in law or in fact, of the particular task assigned to the telecommunications organizations. This task consists in the provision and exploitation of a universal network, i.e., one having general geographical coverage, and being provided to any service provider or user upon request within a reasonable period of time. The financial resources for the development of the network still derive mainly from the operation of the telephone service. Consequently, the opening-up of voice telephony to competition could threaten the financial stability of the telecommunications organizations. The voice telephony service, whether provided from the present telephone network or forming part of the ISDN service, is currently also the most important means of notifying and calling up emergency services in charge of public safety.

19. The provision of leased lines forms an essential part of the telecommunications organizations' tasks. There is at present, in almost all Member States, a substantial difference between charges for use of the data transmission service on the switched network and for use of leased lines. Balancing those tariffs without delay could jeopardize this task. Equilibrium in such charges must be achieved gradually between now and 31 December 1992. In the meantime it must be possible to require private operators not to offer to the public a service consisting merely of the resale of leased line capacity, i.e., including only such processing, switching of data, storing, or protocol conversion as is necessary for transmission in real time. The Member States may therefore establish a declaration system through which private operators would undertake not to engage in simple resale. However, no other requirement may be imposed on such operators to ensure compliance with this measure.

20. These restrictions do not affect the development of trade to such an extent as would be contrary to the interests of the Community. Under these circumstances, these restrictions are compatible with Article 90(2) of the Treaty. This may also be the case as regards the measures adopted by Member States to ensure that the activities of private service providers do not obstruct the public switched-data service.

21. The rules of the Treaty, including those on competition, apply to telex services; however, the use of this service is gradually declining throughout the Community owing to the emergence of competing means of

telecommunications such as telefax. The abolition of current restrictions on the use of the switched telephone network and leased lines will allow telex messages to be retransmitted. In view of this particular trend, an individual approach is necessary. Consequently, this Directive should not apply to telex services.

22. The Commission will in any event reconsider in the course of 1992 the remaining special or exclusive rights on the provision of services taking account of technological development and the evolution towards a digital infrastructure.

23. Member States may draw up fair procedures for ensuring compliance with the essential requirements without prejudice to the harmonization of the latter at Community level within the framework of the Council Directives on open network provision (ONP). As regards data-switching, Member States must be able, as part of such procedures, to require compliance with trade regulations from the standpoint of conditions of permanence, availability and quality of the service, and to include measures to safeguard the task of general economic interest which they have entrusted to a telecommunications organization. The procedures must be based on specific objective criteria and be applied without discrimination. The criteria should in particular be justified and proportional to the general interest objective, and be duly motivated and published. The Commission must be able to examine them in depth in the light of the rules on free competition and freedom to provide services. In any event, Member States that have not notified the Commission of their planned licensing criteria and procedures within a given time may no longer impose any restrictions on the freedom to provide data transmission services to the public.

24. Member States should be given more time to draw up general rules on the conditions governing the provision of packet- or circuit-switched data services for the public.

25. Telecommunications services should not be subject to any restriction, either as regards free access by users to the services, or as regards the processing of data which may be carried out before messages are transmitted through the network or after messages have been received, except where this is warranted by an essential requirement in proportion to the objective pursued.

26. The digitization of the network and the technological improvement of the terminal equipment connected to it have brought about an increase in the number of functions previously carried out within the network and which can now be carried out by users themselves with increasingly sophisticated terminal equipment. It is necessary to ensure that suppliers of telecommunication services, and notably suppliers of telephone and packet or circuit-switched data transmission services enable operators to use these functions.

27. Pending the establishing of Community standards with a view to an open network provision (ONP), the

technical interfaces currently in use in the Member States should be made publicly available so that firms wishing to enter the markets for the services in question can take the necessary steps to adapt their services to the technical characteristics of the networks. If the Member States have not yet established such technical interfaces, they should do so as quickly as possible. All such draft measures should be communicated to the Commission in accordance with Council Directive 83/189/EEC, as last amended by Directive 88/182/EEC.

28. Under national legislation, telecommunications organizations are generally given the function of regulating telecommunications services, particularly as regards licensing, control of type-approval and mandatory interface specifications, frequency allocation and monitoring of conditions of use. In some cases, the legislation lays down only general principles governing the operation of the licensed services and leaves it to the telecommunications organizations to determine the specific operating conditions.

29. This dual regulatory and commercial function of the telecommunications organizations has a direct impact on firms offering telecommunications services in competition with the organizations in question. By this bundling of activities, the organizations determine or, at the very least, substantially influence the supply of services offered by their competitors. The delegation to an undertaking which has a dominant position for the provision and exploitation of the network, of the power to regulate access to the market for telecommunication services constitutes a strengthening of that dominant position. Because of the conflict of interests, this is likely to restrict competitors' access to the markets in telecommunications services and to limit users' freedom of choice. Such arrangements may also limit the outlets for equipment for handling telecommunications messages and, consequently, technological progress in that field. This combination of activities therefore constitutes an abuse of the dominant position of telecommunications organizations within the meaning of Article 86. If it is the result of a State measure, the measure is also incompatible with Article 90(1) in conjunction with Article 86.

30. To enable the Commission to carry out effectively the monitoring task assigned to it by Article 90(3), it must have available certain essential information. That information must in particular give the Commission a clear view of the measures of Member States, so that it can ensure that access to the network and the various related services are provided by each telecommunications organization to all its customers on non-discriminatory tariff and other terms. Such information should cover:

- Measures taken to withdraw exclusive rights pursuant to this Directive,
- The conditions on which licenses to provide telecommunications services are granted.

The Commission must have such information to enable it to check, in particular, that all the users of the network and services, including telecommunications organizations where they are providers of services, are treated equally and fairly.

31. The holders of special or exclusive rights to provide telecommunications services that will in future be open to competition have been able in the past to impose long-term contracts on their customers. Such contracts would in practice limit the ability of any new competitors to offer their services to such customers and of such customers to benefit from such services. Users must therefore be given the right to terminate their contracts within a reasonable length of time.

32. Each Member State at present regulates the supply of telecommunications services according to its own concepts. Even the definition of certain services differs from one Member State to another. Such differences cause distortions of competition likely to make the provision of cross-frontier telecommunications services more difficult for economic operators. This is why the Council, in its resolution of 30 June 1988, considered that one of the objectives of a telecommunications policy was the creation of an open Community market for telecommunications services, in particular through the rapid definition, in the form of Council Directives, of technical conditions, conditions of use and principles governing charges for an open network provision (ONP). The Commission has presented a proposal to this end to the Council. Harmonization of the conditions of access is not however the most appropriate means of removing the barriers to trade resulting from infringements of the Treaty. The Commission has a duty to ensure that the provisions of the Treaty are applied effectively and comprehensively.

33. Article 90(3) assigns clearly-defined duties and powers to the Commission to monitor relations between Member States and their public undertakings and undertakings to which they have granted special or exclusive rights, particularly as regards the removal of obstacles to freedom to provide services, discrimination between nationals of the Member States and competition. A comprehensive approach is necessary in order to end the infringements that persist in certain Member States and to give clear guidelines to those Member States that are reviewing their legislation so as to avoid further infringements. A Directive within the meaning of Article 90(3) of the Treaty is therefore the most appropriate means of achieving that end.

Has adopted this directive:

Article 1

1 For the purposes of this Directive:

- "Telecommunications organizations" means public or private bodies, and the subsidiaries they control, to which a Member State grants special or exclusive

rights for the provision of a public telecommunications network and, when applicable, telecommunications services,

- "Special or exclusive rights" means the rights granted by a Member State or a public authority to one or more public or private bodies through any legal, regulatory or administrative instrument reserving them the right to provide a service or undertake an activity,
- "Public Telecommunications Network" means the public telecommunications infrastructure which permits the conveyance of signals between defined network termination points by wire, by microwave, by optical means or by other electromagnetic means,
- "Telecommunications Services" means services whose provision consists wholly or partly in the transmission and routing of signals on the public telecommunications network by means of telecommunications processes, with the exception of radio-broadcasting and television,
- "Network termination point" means all physical connections and their technical access specifications which form part of the public telecommunications network and are necessary for access to and efficient communication through that public network,
- "Essential requirements" means the non-economic reasons in the general interest which may cause a Member State to restrict access to the public telecommunications network or public telecommunications services. These reasons are security of network operations, maintenance of network integrity, and, in justified cases, interoperability of services and data protection.

Data protection may include protection of personal data, the confidentiality of information transmitted or stored as well as the protection of privacy,

- "Voice telephony" means the commercial provision for the public of the direct transport and switching of speech in real-time between public switched network termination points, enabling any user to use equipment connected to such a network termination point in order to communicate with another termination point,
- "Telex service" means the commercial provision for the public of direct transmission of telex messages in accordance with the relevant Comité Consultatif International Télégraphique et Téléphonique (CCITT) recommendation between public switched network termination points, enabling any user to use equipment connected to such a network termination point in order to communicate with another termination point,
- "Packet- and circuit-switched data services" means the commercial provision for the public of direct transport of data between public switched network

termination points, enabling any user to use equipment connected to such a network termination point in order to communicate with another termination point,

- "Simple resale of capacity" means the commercial provision on leased lines for the public of data transmission as a separate service, including only such switching, processing, data storage or protocol conversion as is necessary for transmission in real time to and from the public switched network.

2. This Directive shall not apply to telex, mobile radio telephony, paging and satellite services.

#### Article 2

Without prejudice to Article 1(2), Member States shall withdraw all special or exclusive rights for the supply of telecommunications services other than voice telephony and shall take the measures necessary to ensure that any operator is entitled to supply such telecommunications services.

Member States which make the supply of such services subject to a licensing or declaration procedure aimed at compliance with the essential requirements shall ensure that the conditions for the grant of licenses are objective, non-discriminatory and transparent, that reasons are given for any refusal, and that there is a procedure for appealing against any such refusal.

Without prejudice to Article 3, Member States shall inform the Commission no later than 31 December 1990 of the measures taken to comply with this Article and shall inform it of any existing regulations or of plans to introduce new licensing procedures or to change existing procedures.

#### Article 3

As regards packet- or circuit-switched data services, Member States may, until 31 December 1992, under the authorization procedures referred to in Article 2, prohibit economic operators from offering leased line capacity for simple resale to the public.

Member States shall, no later than 30 June 1992, notify to the Commission at the planning stage any licensing or declaration procedure for the provision of packet- or circuit-switched data services for the public which are aimed at compliance with:

- Essential requirements, or
- trade regulations relating to conditions of permanence, availability and quality of the service, or
- measures to safeguard the task of general economic interest which they have entrusted to a telecommunications organization for the provision of switched data services, if the performance of that task is likely to be obstructed by the activities of private service providers.



The whole of these conditions shall form a set of public-service specifications and shall be objective, non-discriminatory and transparent.

Member States shall ensure, no later than 31 December 1992, that such licensing or declaration procedures for the provision of such services are published.

Before they are implemented, the Commission shall verify the compatibility of these projects with the Treaty.

#### Article 4

Member States which maintain special or exclusive rights for the provision and operation of public telecommunications networks shall take the necessary measures to make the conditions governing access to the networks objective and non-discriminatory and publish them.

In particular, they shall ensure that operators who so request can obtain leased lines within a reasonable period, that there are no restrictions on their use other than those justified in accordance with Article 2.

Member States shall inform the Commission no later than 31 December 1990 of the steps they have taken to comply with this Article.

Each time the charges for leased lines are increased, Member States shall provide information to the Commission on the factors justifying such increases.

#### Article 5

Without prejudice to the relevant international agreements, Member States shall ensure that the characteristics of the technical interfaces necessary for the use of public networks are published by 31 December 1990 at the latest.

Member States shall communicate to the Commission, in accordance with Directive 83/189/EEC, any draft measure drawn up for this purpose.

#### Article 6

Member States shall, as regards the provision of telecommunications services, and existing restrictions on the processing of signals before their transmission via the public network or after their reception, unless the necessity of these restrictions for compliance with public policy or essential requirements is demonstrated.

Without prejudice to harmonized Community rules adopted by the Council on the provision of an open network, Member States shall ensure as regards services providers including the telecommunications organizations that there is no discrimination either in the conditions of use or in the charges payable.

Member States shall inform the Commission of the measures taken or draft measures introduced in order to comply with this Article by 31 December 1990 at the latest.

#### Article 7

Member States shall ensure that from 1 July 1991 the grant of operating licences, the control of type approval and mandatory specifications, the allocation of frequencies and surveillance of usage conditions are carried out by a body independent of the telecommunications organizations.

They shall inform the Commission of the measures taken or draft measures introduced to that end no later than 31 December 1990.

#### Article 8

Member States shall ensure that as soon as the relevant special or exclusive rights have been withdrawn, telecommunications organizations make it possible for customers bound to them by a contract with more than one year to run for the supply of telecommunications services which was subject to such a right at the time it was concluded to terminate the contract at six months' notice.

#### Article 9

Member States shall communicate to the Commission the necessary information to allow it to draw up, for a period of three years, at the end of each year, an overall report on the application of this Directive. The Commission shall transmit this report to the Member States, the Council, the European Parliament and the Economic and Social Committee.

#### Article 10

In 1992, the Commission will carry out an overall assessment of the situation in the telecommunications sector in relation to the aims of this Directive.

In 1994, the Commission shall assess the effects of the measures referred to in Article 3 in order to see whether any amendments need to be made to the provisions of that Article, particularly in the light of technological evolution and the development of trade within the Community.

#### Article 11

This Directive is addressed to the Member States.

Done at Brussels, 28 June 1990.

For the Commission Leon Brittan Vice-President

#### FRG, France To Invest in European Telephone Systems

LD1809194290 Hamburg DPA in German 1805 GMT  
18 Sep 90

[Text] Paris (DPA/VWD)—The telephone companies of the Federal Republic of Germany and France, Deutsche Bundespost's Telekom and France Telecom, are to found a joint enterprise which is to invest in the telephone systems of the countries of Central and Eastern Europe. The French Posts Ministry announced on Tuesday that a genuine industrial partnership is planned.

As far as possible, the joint subsidiary is to sell not only radio telephones and other products in the former socialist states, but also is to take over telephone systems which are going to be privatized. The GDR is not a part of the envisaged new market. The telephone systems of practically all the CEMA states are completely outdated and inadequate.

### Major Firms To Promote Telephone Communications

90AN0396 Brussels *TECH-EUROPE* in English  
Aug-Sep 90 Section V p 1

[Article: "Telecommunications: Alliance Between Five Private European Companies"]

[Text] Five private European telecommunications concerns (GEC-Plessey-Telecom of the United Kingdom, Alcatel Business System Group of France, Societe Anonyme de Telecommunications of France, Siemens of West Germany, and Telenorma also of West Germany) are set to unite within a forum called IPSN (IPSN PBX Networking Specification Forum) with a view to promoting common standards for private telephone exchanges (PABX). The aim of this alliance is to manufacture compatible telephone exchanges so as to streamline international telephone communications.

At the present time, there is quite a long waiting time involved in making an overseas telephone call. To get through to a subscriber, a caller has to go through the time-consuming process of dialling the international code (waiting a few seconds), the country code and the subscriber's number.

This loss of time spent in performing what are very often quite elaborate manipulations could be avoided by aligning private telephone exchanges with the EEC standards established by the European Telecommunications Standards Institute (ETSI). The standardised exchanges to be developed by the ETSI would be a great advantage to companies and enable them for one thing to connect up the private exchange of their affiliates. In addition, to saving time and money, the system would allow companies to gain access to the new services offered by the Integrated Services Digital Network (ISDN).

The PABX market world-wide is worth more than ECU 8 billion a year. The IPSN forum is open to all companies wishing to cooperate in the work involved in standardising exchanges in line with EEC Directives.

### BELGIUM

#### Alcatel-Bell Signs Contract With Soviets

90W70125A Brussels *KNACK* in Dutch 27 Jun 90 p 28

[Article by J.G.: "Wanted: Reunification"]

[Text] The senior company officials from Alcatel-Bell who deplaned from the Belgian Air Force Boeing at

Melsbroek on Tuesday evening were hungry, tired, and extremely happy—and those three men had business to discuss among themselves. Some five days previously, Bell had caught wind of the fact that the German firm Siemens was going to sign a telecommunications contract with the Russians late last week. Three ministers—Marcel Colla (PTT [Post, Telephone & Telegraph]), Robert Urbain (Foreign Trade), and Hugo Schiltz (simply as vice prime minister)—were drummed up in great hurry along with a band of journalists and, amid much improvisation and about two weeks earlier than planned, off and away they went on a flight to Moscow. There, Bell signed one of the most important contracts in its history barely 48 hours before Siemens could do the same.

### China

Nearly 3 years of negotiations had preceded this. The first consultations at an important level date from October 1987. A good six months later, the men from Antwerp sat down to business with Minister of Communications Pervyshin, and in the first half of 1989 the pace of negotiations rapidly picked up. Minister of Economic Affairs Willy Claes went to Moscow to plead the cause, and Prime Minister Wilfried Martens talked with his Russian colleague.

In the meantime, however, parallel discussions were being held in Washington and Paris with COCOM [Coordinating Committee for Strategic Trade Controls], the authority that makes the decision that the West will not sell to the East Bloc a single nut or bolt that contains any technological secrets. Bell was familiar with the crack of the whip and dispatched a ministerial lobby—but above all it presented a project in three phases. Vlaamse telekommunikant, which is owned by the French-European Alcatel consortium, was the first to experience the advantages of such project-splitting in China, where the Shanghai Bell Telephone Equipment Manufacturing Company was formed in 1983.

There was hardly any disagreement about the first project proposal (direct deliveries) since in this phase Bell would not manufacture or assemble there. Things were more difficult in the case of the first joint venture which allowed Bell to manufacture digital telephone lines in Leningrad. In September 1988, this project proposal was submitted to COCOM and was not approved until several weeks ago. The third batch of proposals (another joint venture, but this time for a chip factory) will now be forwarded as quickly as possible, but Bell is no longer very worried about it. "I am quite optimistic about it," says John Goosens, Bell's managing director responsible for the project. "Everything went relatively quickly in this case—certainly in comparison with China. Fortunately, the project was broken up into stages. The third stage will not cause as many problems. If COCOM just realizes for once what is being produced in the Soviet Union in the area of leading technology, a

lot of resistance will disappear. You can hardly maintain, for example, that Russian satellites just get into orbit by themselves." Where there will be a lot of wrangling in the coming months, however, is in regard to the financial aspects of the deal since what was signed in Moscow was, after all, nothing more or less than a fine commercial agreement without the financial aspects of it having been ironed out. And one of the causes of this is to be found in Belgium.

#### **Pepsi**

In contrast to the China deal, Bell could not count on international financial backing for the Russian contract—no International Monetary Fund that could be interposed between them, and no multilateral assistance. Bell did indeed go calling on the Delcredere service for credit guarantees, but for the time being it would not hear of it. Delcredere was asked to provide guarantees for 8.2 billion francs, and it was just not willing to go for it for three reasons.

In the first place, there is the size of the amount. The Delcredere ceiling for the Soviet Union is 10 billion francs annually. A laundry list of deals including projects amounting to billions already exists (among them Sidmar, which asked for some 3 to 4 billion francs), and thus the ceiling would be exceeded by a goodly amount. The Bell affair may therefore go to Delcredere's board of directors, who will then pass the matter along to the government. Second: The Soviet Union is no longer a reliable payer. Arrears of around DM1 billion are owed to the Germans, the Japanese are waiting for \$600 million that are overdue, and the Italians are waiting for \$200 million. And a third reason why Delcredere is not jumping at the offer: Despite repeated promises, the Russians are not offering counter guarantees. That has to do with new economic legislation that stipulates that enterprises (including the mixed form of enterprises) must make financial arrangements for themselves.

Bell can now—and it alluded to this in Moscow—apply other techniques to extricate itself financially from a difficult situation. By yet engaging government support, for example: the project and the shortage of hard currency, however, are equally great. And even if one allocation or another is found, it will still remain a political risk. Another possibility is exporting.

That, however, is very limited (a maximum of 15 percent of the production) and must be done through the expensive clearing process. Another possibility is countertrade, but in the Soviet Union that is reserved for old acquaintances and thus Pepsi Cola is one of the few who recently got a renewed contract for this kind of business. Investing the earned rubles in activities that produce hard currency is equally out of the question, as is selling the goods produced for hard currency (the government takes 70 percent).

Ironing out the financial aspects may thus indeed take some time yet. Meanwhile, Siemens is also in the Soviet Union—but with sound backing (DM3 billion) from,

among others, the government. In this way the Germans are buying a bit of peace for their reunification. It is too bad for Bell that there is nothing to reunify in our country.

## **CYPRUS**

### **Cyprus News Agency Stresses 'Independent Stance'**

NC1809085190 Nicosia CYPRUS MAIL  
in English 18 Sep 90 p 4

[Text] The semi-official Cyprus News Agency (CNA) yesterday denied it was a government mouthpiece and stressed its independent stance with regards to news reporting.

"The agency is a public authority which maintains an independent and autonomous position, operating within the stipulations of Cypriot press legislation," said the chairman of the board, Khristos Katsambas, at a press conference yesterday.

Katsambas dismissed claims that the agency is just another outlet for processing government statements, such as those issued by the Press and Information Office, saying "The CNA is not the voice of the government but of Cyprus".

Katsambas stated the agency had two main objectives, "firstly to cover the important issues concerning Cyprus, including the airing of our views on events to other countries and secondly, the gathering of information for distribution to interested parties, wishing to make use of it."

Over the last year the agency has run almost entirely on the 167,000 Cyprus pounds granted by the government, receiving only 5,000 Cyprus pounds from subscribers, Katsambas said.

"According to the law, the aim of CNA is to select information for editing and distribution to interested parties. The charge, if any, for this provision is decided by the board of directors."

The seven members of the board are made up of journalists or persons directly connected to the media which include representatives of the Union of Journalists, the Association of Publishers, the Cyprus Broadcasting Corporation, the government's Press and Information Office and the Ministry of the Interior. The board claim CNA does not discriminate against any political or economic interests.

Staff working at the agency, at the moment just outnumber the members of the board of directors but CNA plans to have on its payroll within the next year four editors, three assistant editors, an accountant/secretary, two telex operators and an office clerk.

Katsambas said he was proud of CNA's achievements, taking into account their limited staff and stated "CNA



has filled a void which genuinely existed, with journalistic work of a satisfactory level".

CNA actively cooperate with foreign news agencies which include the internationally well known Reuters, Middle East News Agency, Asia News International and the Athens News Agency. They regularly supply news and information to Associated Press, United News International, the Italian News Agency (ANSA) and the Soviet News Agency (TASS) as well as others.

### **Cyprus Broadcasting Corporation Launches Third Program**

NC2109130290 Nicosia *THE CYPRUS WEEKLY*  
in English 21 Sep 90 p 8

[Report by Bouli Hatzioannou]

[Text] Cy BC [Cyprus Broadcasting Corporation] will make its own contribution to round-the-clock live broadcasting with the launching of its third programme on 94.8 FM stereo at midnight on Sunday, September 30.

The decision, which has prompted accusations in a section of the local press of 'unfair competition' against the newly-established independent radio stations, is expected to show that CyBC too can break out of stereotype models and give the audience what they apparently want—lots of music and news programmes. CyBC itself described the new venture as "a necessary complement to existing programmes."

It rejected charges that tax payers' money was being wasted, arguing that all expenses had been explicitly stated in its 1989 and 1990 budgets.

The decision dates back to 1986 and, according to a CyBC statement, the corporation felt that the establishment of a new channel falls very much within its mandate to serve the people of Cyprus to the best of its abilities.

CyBC, which belongs to the people of Cyprus, feels the obligation and continually seeks to complement and improve its services to the public, giving it the possibility of another choice, which will offer entertainment but especially extended news coverage. The channel will cover "the political, cultural, economic and social life of the country in an accessible and pluralistic way," CyBC said in an official announcement.

The new programme will rely mostly on part-timers, many of them journalists in the Greek language press. A Greek expert, Tassos Papadhopoulos, has been on the island for the past few weeks, training the new staff.

Some of the heavy guns from the TV programme will also be rolled in to help, sources close to the third programme told *The Cyprus Weekly*.

They include newscasters Ioannis Kareklas, Andreas Stilianou and Spiros Kettiros.

CyBC hopes to attract advertising by offering tempting packages for radio and TV advertisements. It hopes the audience will tune in to what CyBC describes as the "new spirit of broadcasting," including the audience's own top twenty.

According to CyBC sources, the new station will place special emphasis on radio magazine programmes, which will rely on a network of correspondents.

It has also tried to bring in as much new blood as possible.

"We want to have completely different voices. It has to be a different programme with a different approach to broadcasting. We do not want to create another first channel," one highly placed CyBC official told *The Cyprus Weekly*.

The decision not to employ new full time staff was as much a result of necessity as of choice.

CyBC is already top heavy and its large payroll has earned it more than its fair share of criticism. Part-timers are cheaper. They are also more flexible.

"But even if we wanted to hire full-time employees, we can't, because of the appeal pending before the Supreme Court," the same official said.

The appeal followed a decision by judge Khristos Artemidhis ruling the appointment of CyBC PR officer Nayia Roussou unconstitutional. Artemidhis said that the presence of party representatives as board observers and the appointment of members of the board from lists submitted to the President was discriminatory and therefore unconstitutional.

Also pending is the appointment of a new chairman of the board, following the resignation of Khristos Dhimitriadhis on grounds of ill health.

Press reports have suggested that the leading candidate for the important position is former minister Marios Iliadhis.

## **DENMARK**

### **Critics Charge System Privatization Too Limited**

90WT0122A Copenhagen *BERLINGSKE TIDENDE*  
in Danish 2 Jul 90 p 11 2

[Article by JDS: "Telephone Monopoly Unchanged for Existing Installations"]

[Text] Critics of the new telephone law indicate that privatization of the telephone system will only be achieved with respect to new businesses and residential buildings.

Telephone system privatization, which has just become law, applies in principle only to new businesses and residential properties. The telephone companies still

have a monopoly with respect to existing installations, according to representatives from the Chamber of Commerce, the Industry Council and the Union of Electrical Installers, ELO.

"The market for internal telephones is now open, so that everyone can compete with respect to the sale of telephone switchboard systems or the installation of customers' internal phones. However, the lion's share of the market is not open to free competition," says H. Sejer-Petersen, administrative director for the Chamber of Commerce.

Only internal telephones in newly constructed properties have been returned to open competition. No private enterprise can compete for one percent of a market in which there exists another enterprise which controls 99 percent of that same market."

Chief consultant Karsten Knudsen, ELO:

"I find it unpleasant that the privatization has not been implemented as originally planned. Only the conditions have changed. When you're talking about existing buildings, the telephone companies still hold practically everything in the existing network. We have set forth a fixed price with respect to how much the individual telephone subscriber should pay to assume phone ownership. However, with respect to internal systems in an apartment block, the telephone companies' ownership rights extend right to the jacks."

Department chief Jorgen Stein, member of the Industry Council's committee on the telephone board:

"There has certainly been talk of privatization, but the ownership still belongs to the state. The companies sit back and enjoy a monopoly. Considerable privatization and progress has been achieved in the area of equipment, if we look back three years, when there was a complete monopoly there as well. Now the consumer has total freedom. The transmission network in the buildings has also been privatized, although the extent to which that affects the individual customer is open to discussion. The telephone lines are owned by, for example, KTAS. The landlord may well negotiate control over them up to the point where they reach each individual unit in a large apartment building, but the telephone company still retains ownership right up to the jacks. Assumption of ownership is clearly easier in the case of a house. There can be problems for business ownership, even though there are possibilities for negotiation. Businesses cannot just move to another place, if the prices don't match up. This creates some inequality with respect to the possibilities for negotiation. Great effort has been made to find a balance, and even though we would have preferred to see something else, we must remember that we will have to consider EEC regulations in a few years," maintains Jorgen Stein.

## FEDERAL REPUBLIC OF GERMANY

### FRG, GDR Establish Joint R&D Network

90M10318 Munich MPG SPIEGEL in German No 3 90  
p 11

[Text] The Association for the Promotion of a German Research Network (DFN), the [GDR] Academy of Science's Institute of Engineering (IIR), and the Technical University of Dresden have jointly drafted and proposed a project that will link the GDR's regional research centers up to the German Research Network in the near future via computer dialog and electronic mail. Dresden Technical University represents the interests of the GDR universities and technical colleges in this joint project, and the Institute of Computer Science and Engineering those of the Academy of Science and its institutions. The DFN Association, a scientific self-help organization with headquarters in Berlin, which, with BMFT [Federal Ministry of Research and Technology] support, has built up a research communications network in the FRG, has now offered the GDR institutes assistance in establishing a computer network compatible with its own.

This joint project aims to extend the DFN associations' packet-switching network into the GDR so that scientists there can obtain the same performance characteristics from the DFN communications services as those available in the FRG. This goal can be achieved only in the medium term because the GDR currently has no packet-switching network, and its existing cable infrastructure lacks the requisite capacity. In this respect the DFN Association and its partners in the project will have to wait until the package-switching network, which the FRG and GDR telecommunications administrations agreed in February to set up rapidly, is in place.

By way of an interim solution, which can later be compatibly converted, the GDR regional research centers—greater Berlin, Dresden, Leipzig/Halle, Rostock, and Magdenburg—will be linked to the German Research Network via Dialog and electronic mail services by the fall of this year. This will give approximately 23,000 GDR scientists access to non-restricted Western data bases, allow them to communicate worldwide via electronic mail, and enable them to take advantage of their Western cooperation partners' resources such as data bases and computer capacities.

The BMFT is providing the DFN Association's joint project with a subsidy of approximately 1.5 million Deutsche marks. It regards this project as a cornerstone of the pan-German research network.

### Deutsche Welle to Take Over GDR's Foreign Broadcasting

LD2109142690 Hamburg DPA in German 1353 GMT  
21 Sep 90

[Text] Cologne (DPA)—From midnight on the day of German unity on 3 October, Deutsche Welle (DW) in

Cologne will take over the eleven short-wave transmitters of the GDR foreign radio station Radio Berlin International (RBI). Whether the 130 or so staff can be incorporated depends on the negotiations on the third supplementary federal budget said DW Intendant Dietrich Weirich to the press today.

The operation of the additional short waves will cost DM8.3 million this year and DM33 million next year, and Weirich is asking the Federal Government to provide this. The RBI frequencies will help DW to increase its competitiveness in southern Europe, particularly in Bulgaria, Romania, and in Turkey. Up to now, the DW program in Europe has had "big gaps both in terms of time and location" with its 32 transmitters.

On the reorganization of federal radio Weirich stressed that DW wants to strengthen foreign broadcasting. However, if the foreign language programming of Deutschlandfunk should go to DW as the result of a political decision to this effect, he expects there to be costs of DM61.3 million.

#### **Nuclear Research Center Expands Cooperation With GDR**

90M10243X Bonn *TECHNOLOGIE NACHRICHTEN-MANAGEMENT INFORMATIONEN* in German  
28 May 90 pp 13-14

[Text] The Karlsruhe Nuclear Research Center (KfK) has intensified and greatly expanded its relations with GDR scientific institutes and universities in the past few months. In addition to its cooperation with the Central Institute for Nuclear Research (ZfK) in Rossendorf near Dresden and the Dresden Technical University in the field of reactor safety as part of a government agreement concluded two years ago, the KfK is also cooperating in the fields of environmental and materials research as well as in the production of radioactive pharmaceuticals. Joint technology transfer projects are planned. The KfK's most important GDR partners, in addition to the ZfK, which is part of the GDR Academy of Sciences, and the Central Institute for Solid-State Physics and Materials Research in Dresden, are the Martin Luther University at Halle-Wittenberg, the Dresden Technical University, and the Zittau Technical College.

The "Bruno Lenschner" nuclear power plant in Greifswald has also demonstrated an interest in cooperating in the field of safety with the GDR Academy of Sciences and the Dresden and Zittau universities, which study fuel element and fission product reaction in serious accidents in pressurized water reactors. The GDR would like to carry out its own experiments in three different experimental stations in Karlsruhe and would like the nuclear research center to contribute to the construction of a model containment shell near Leipzig and to use its experience in a corresponding experimental program. Training courses for the Greifswald staff have also been planned at the KfK school for nuclear technology.

The removal of nitrate from drinking water is the subject of an agreement with the Martin Luther University, while high-temperature superconductivity is the subject of a cooperation agreement with the ZfK. The cooperation sought after in the field of technology transfer began in early April with the participation of several employees of the Suhl State Data Processing Center in a basic seminar on CAD [computer-aided design] at the KfK's CAD-CAM [computer-aided manufacturing] laboratory in the Karlsruhe technology factory. The exchange of trainer instructors and the use of the KfK's experience are also envisaged for the establishment of new organizational and administrative structures at the Rossendorf-based ZfK, where the KfK will also provide assistance. Meanwhile, a considerable list of equipment requested by many GDR research institutes has been presented.

During the next few weeks the first visiting scientists from the GDR are expected to arrive at the nuclear research center for study visits of several months to a year. These, and other personal contacts at various levels should soon lead to the identification of additional joint research activities. Consequently, on a medium-term basis, an even wider cooperation between the KfK and GDR research institutes may be anticipated.

#### **MBB AI Satellite Described**

90M10317 Munich *MBB NEW-TECH NEWS*  
in English No 1, 90 pp 17-21

[Excerpts] In the course of the past years, MBB has worked out a series of technologically valuable facts and findings, part of which are protected by internationally valid patents, which will assist in the installation of this type of earth-observation system. The term earth observation here does not only represent optical activities. It above all signifies computers performing optoelectronic-digital-mathematic work from a geostationary orbit at an altitude of 36,000 kilometers.

The system that can make all this happen is called LESAT (Learning Remote-Sensing Satellite System). It contains a research approach with a view to a long-living, error-tolerant, multisensor environmental measuring and evaluation system which can detect and learn, and is based in space. The satellite system comprises three basic functions: four geostationary satellite centers with artificial intelligence (AI), two reconnaissance satellites that circle the earth in polar orbit, and tank-satellite modules parked in orbit.

The satellite observation system's operation is all-earth-encompassing, which means that the satellites simultaneously "acquire" the earth's picture from all sides. One glance and the entire earth becomes visible, enabling detailed scientific evaluations to be made of its surface and atmosphere. The system would look something like this: Four geostationary AI satellite centers are arranged in the geostationary orbit in such a manner that they can optically survey the entire surface of the earth with the exception of the zones near the poles. The four



AI satellite centers, equipped with the appropriate measuring sensors, are linked by a ringbus-laser communication unit. Via this laser-communication unit the four satellite centers continually exchange data acquired on the status of the earth's surface in the night and day areas.

On earth, various users can call up data from the nearest center in the geostationary orbit (altitude 36,000 kilometers) via microwave radio and satellite antennae. From a low orbit (altitude 300 to 400 kilometers) two additional reconnaissance satellites that circle around the poles provide the AI satellite centers with optically and sensorially acquired high-resolution measurement data by means of a radio data link.

The pole satellites work like tracking hounds on a data base line in orbit. Depending on the monitoring status in the AI centers, they provide information in cases of sudden changes on earth's surface by means of high-resolution picture-data and measurement-data acquisition. This information would cover, for example, developments in the weather, volcanic eruptions, earthquakes, seaquakes, solar effects, cosmic radiation, or other events on earth that are subject to rapid fluctuation. If the fuel reserves for the satellites' attitude-control or propulsion-control engines run out, there is a parked, remote-controlled tank satellite in orbit that can supply the satellites with new fuel by means of its own propulsion and a special navigation and docking system.

A geostationary AI satellite-center consist of a processor network as was described in the new-tech news 4-88 issue under the designation of OPTICOM. A processor network of this kind consists of single-level, rows of integrated microprocessor chips in a hexagonal<sup>®</sup> metal grid system.

Their energy comes from solar cells on the lower side of the chip, and they communicate with one another via an optical-fiber system on the upper side of chip. An optical permanent hard-disc memory, which is linked to the processor network, contains all the operational programs needed for the network's basic functions and keeps them available at all times.

The term processor network represents the interlinking of a multitude of microprocessors by means of its own communications system. Similar to a fishing net, this system comprises nodes and meshes, where the nodes are the crossover points on which the microprocessors are positioned - hence the interfaces of a multitude of information - and the meshes are the transmission paths for the information. This communications system has the advantage that individual microprocessors in the nodes and meshes may be impeded or destroyed without substantially inhibiting the overall function. The so-called redundancy is thus multiply safeguarded.

For memorizing function data such as digitized picture data for pattern memory and detection from the camera's systems, and erasable writing/reading memory in connection with the processor network. Consequently,

the satellite center's brain takes on the form of encapsulated network processors that are protected from foreign and hindering influences. The geostationary AI satellite center performs the following tasks in the overall system:

One mission is optical surface monitoring, such as global or large-area weather observation. To perform this task there is a camera system based on high-resolution CCD chips with various exchangeable color filters and a variable objective that operates in the visible light range. A video-image processor component transmits the camera data for evaluation to the processor network - a procedure that is effectuated via fiber-optical data bus.

The following process is utilized for the optical analysis of the light spectrum emanated from the earth's surface in the masked range of day and night reflecting light: An optical spectrum-analysis sensor takes on the task of effectuating direct, sectorized spectral analysis of the composition of substances in the layer of air surrounding the earth. A spectral processor chosen for this purpose translates the acquired data for the processor network.

An infrared map of the earth's surface is generated by the earth- observation system as follows: A laser scanner operating in the low infrared range, which penetrates the clouds, scans the earth's ocean and land areas using code-marked detection signals and measures the return loss on the earth's surface in the land, ocean, and ice areas. A laser processor acquires the data and transforms them for the central processor network.

A special microwave receiver monitors the radio waves in the microwave range which are emanated from the earth's surface. A connected microwave processor transmits the transformed data to the processor network for further processing.

A geomagnetic field probe measures the external geomagnetic field in connection with the particle flow (solar wind) coming from the sun. This probe continually supplies data on fluctuations in the geomatic field in direction, force, and polarity. These data, too, are processed via a processor component chosen for this purpose and transmitted to the central processor network. This provides information on the relation between the ozone concentration in the upper ionosphere layer and the recently increasing hole in the ozone on the one hand, and the geomatic disturbances of these processes on the other hand. The spreading of the ozone holes influences the penetrability of UV rays into the atmosphere, which disturbs and modifies the energy balance in the atmosphere and on earth.

A laser ringbus communications system, consisting of a bus processor system linked up to the processor network and a laser transmitter/receiver unit, is foreseen for the communication between the four AI satellite centers. The system will link all four satellite centers across the distance in space for the purpose of data exchange. A special wideband communication system, which is in contact with the earth's surface, will allow users of the

system on the earth to gain access to the data and evaluations in the AI satellite centers.

Via an attitude control, which is coupled with the processor network, the data from the laser-based attitude platform inside the satellite are utilized by the processor network to activate the spin and attitude engines (spin and stabilization engines). This allows the satellite center to maintain a stable attitude and position in relation to the earth's surface via optical star positioning as well as laser gyro. A special docking control with the accompanying mechanical systems effectuates the coupling of tank satellites in case the fuel reserves on board run out. To do this, the arriving tank satellite is actively guided to the docking position by a microwave-navigation-and-docking transceiver.

As is the case in the OPTICOM system, the electric energy supply for the processor network consists of a baseline layer of solar cells with the processor network positioned behind them. And the solar cells required for the communications and sensor components are designed as a baseline layer for the high-speed-frequency generator chips, modulator and amplifier chips, as well as for the sensor chips and the accompanying processor chips, all of which are positioned behind the layer. The result is a multiredundant network system, in which, for example, certain solar cells and chips can be destroyed by meteorites, but the system's overall functioning cannot be reduced. If individual network components have been disturbed or destroyed, the processor network has special testing programs that determine which components no longer function, and they are then eliminated from the system's operation.

The reconnaissance satellite that circulates around the poles performs the following tasks within the overall system. It traces high-resolution, optical details from a near-earth orbit in the visible, near ultraviolet and infrared range of the light spectrum. This job is also performed by a camera system with a variable objective based on high-resolution CCD chips charge-coupled device chips) with required changeable color and polarity filters. Sudden changes in the optical range can be recorded in enlarged detail by day as well as by night.

Microwave radar provides other complementary monitoring, independent of weather and clouds, of high-resolution details on the earth's surface in land and ice areas as well as of swell and current in the oceans. It supplies structured detailed pictures of the earth's surface, representing a rapid completion of the information from the optical range.

Individual and cumulative color sector partial images in parallel screening record integral changes in color and spectral temperature changes in the atmosphere and on the earth's surface. An integrated camera network with a solid-state design, based on the principle of an insect's eye and equipped with permanent color filters, supplies the various sectorized cumulative color signals, which can then be evaluated together or individually. The

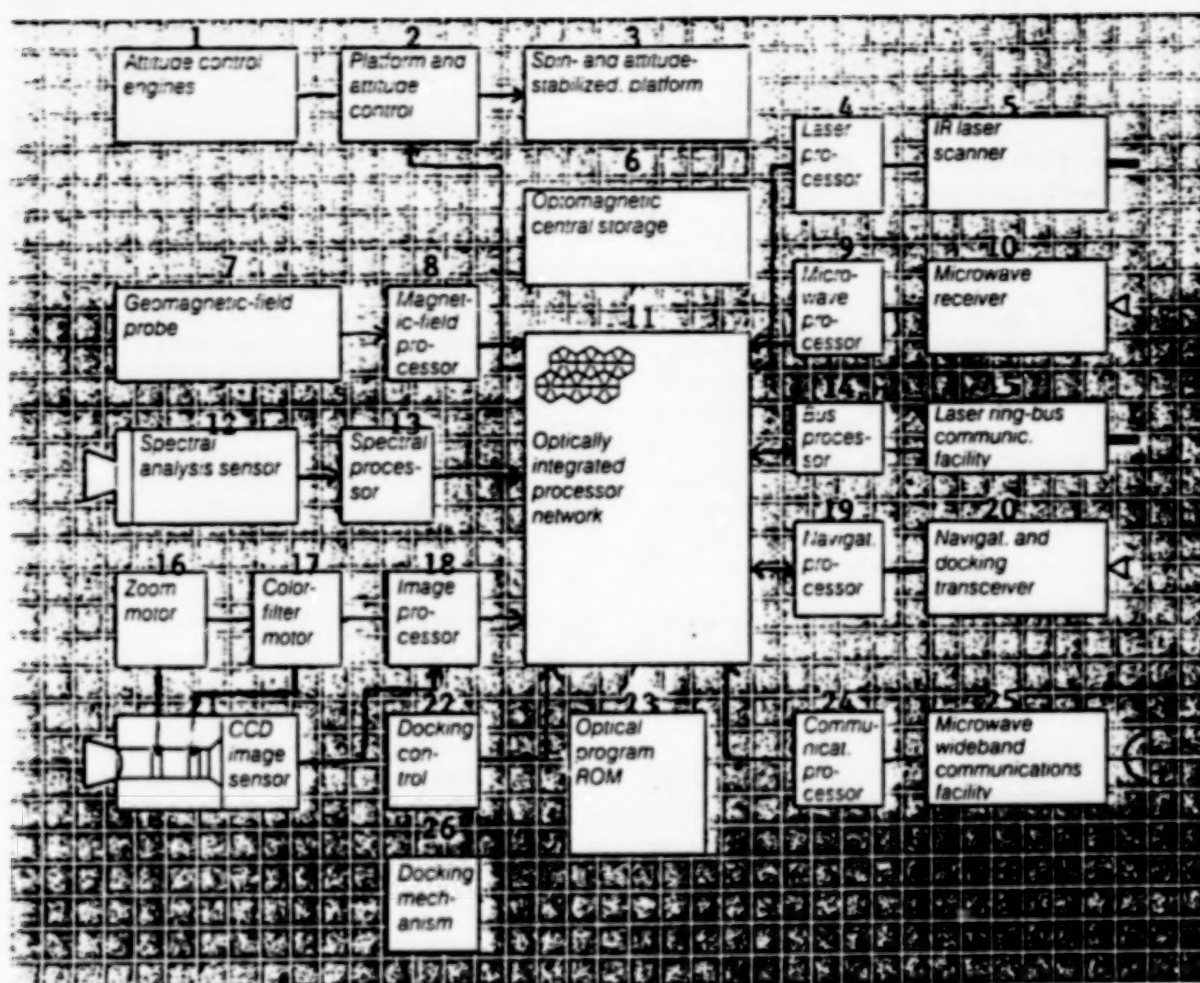
thermal reflections, which are important for the complete assessment of the earth's surface, are measured at a low orbit. A thermal imaging camera registers the thermal radiation in the near-earth orbital range and distinguishes various temperature-zone details on the earth's surface.

All collected data are, as with the AI satellite networks, transmitted to a processor network, which is linked up to an optical permanent memory component and an optomagnetic central memory. The processor system also controls the satellite propulsion and the attitude control, as well as the docking process when tanking satellites effectuate the refueling tasks. Furthermore, a laser radio data link provides continuous communication between the pole-circling satellites and the AI satellite centers. By this means they receive mission commands concerning detail reconnaissance for the completion or compensation of data with the AI satellite centers. As for the AI satellite centers, they can, thanks to the basis of global knowledge they possess of the overall correlation they have acquired, create special monitoring tasks for the reconnaissance satellites' orbital phase.

The optical solid-state camera network, as it is called, operates in its schematic design as follows. A multilayer image processor chip, and LCD aperture control, the solar cell energy supply and the accompanying optical fiber communications network level, along with the CCD matrix image sensor all form a closed optical unit. The chip unit can be arranged side by side on this level, allowing an optical network arrangement to be made. The arrangement, which is similar to the eye of an insect, can individually and jointly supply optically filtered and spectrally different individual and cumulative color signals.

Long-term application of the overall satellite system makes tank satellites a necessity. A tank satellite basically comprises a central storage tank for the satellite's fuel, a main propulsion, the attitude engines, and the docking and navigation equipment. A microwave communications system links the tank satellite with the AI satellite centers. Shuttle or carrier launcher systems park it in orbit, after which it is available at all times to the individual satellites for refueling. With this, the remote-sensing satellite system is guaranteed a long life of service.

Thanks to its interlinked computer structure and its extraordinarily high amount of optical memory capacity, the LESAT remote-sensing satellite system can, in the AI satellite centers, use intelligent pattern detection program systems to compile long, comparative and correlative collections of data. This collection does not only consist of statistical mathematical data concerning change parameters of climate and environmental developments in the earth's surface. Thanks to the system's monitoring of critical transgressions in trends and limits, it can also effectuate detailed studies via the pole-circling reconnaissance satellites, which register locally limited developments.



The system's wideband communication equipment, which operates on numerous parallel channels, makes the satellite system available to a great number of different users throughout the world. In addition to the acquisition of standard data, a standardized communications software program makes it possible to define and prescribe continually new applications for the satellite centers. This enables the AI centers to acquire new correlations, primarily from the comparative data coming from the earth, and to critically accompany the development of our planet.

In researching this innovative remote-sensing satellite system, MBB is contributing to world-wide environmental data acquisition and the active reconnaissance of climatic correlations. Long-term development and vegetation damages can also be registered and signalized, and prognoses concerning, for example, the harvest situation throughout the world, can be effectuated. Data of this kind are also complemented by co-linked weather analyses and prognoses. With the comprehensive concept of the LESAT remote-sensing satellite system, MBB has not only paved the way to increasing the knowledge of our

planet, to better recognize and prevent its dangers, but also to correctly assess the earth's biological and economical effectivity.

## SWEDEN

### Official Policy Blamed for VSAT Systems Lag

90WT0132A Stockholm DAGENS NYHETER  
in Swedish 24 Jul 90 pp 1-2

[Article by Jan Larsson: "Cheaper Talk Via Dish Antenna"]

[Text]

### Telephone Company Monopoly Prevents New Communications System

It would be like a dream for the large multinational companies to have an internal international communications network. They would avoid high telephone bills, problems with connections, and new installations when they move.



All that is needed is a dish antenna on the roof of every local office building and satellite space. In the United States, this market is growing rapidly, but in Europe, the state telephone companies say no.

The fact is, that this development will cause the telephone companies' "gold customers"—the big companies—to disappear. Remaining will be the households and the small companies that cost a lot and yield small profits.

The telephone company's daughter company, Vesatel, does, however, believe that there will be demonopolizing and is ready to start in on the large potential European market.

"We believe that the market will be demonopolized between 1993 and 1995. Before the year 2000 there will be around 25,000 dish antennas for two-way communications in Europe, says Lillemor Larsson, deputy director for Vesatel.

#### Great Differences

Today, around 300 such dish antennas are to be found in Europe. There is a great difference between the one-way dish antennas which are commonly used for receiving satellite television and those two-way dish antennas which can both receive and send.

Two-way satellite communications has undergone great technical improvements during the 1980's. Previously, dish antennas of 15 meters in diameter were needed at a cost of millions of kronor. Now, it is enough to have two dish antennas of 1.8 meters [in diameter] for 2,000 kronor.

Added to that is the rent for a satellite for bouncing the signals. The dish antennas are called very small aperture terminals, which is shortened to VSAT.

The only VSAT in Europe that is commercially linked to another country is ABB's direct connection to Australia.

There are already about 21,000 VSAT dish antennas in the United States, and 70,000 are on order. VSAT dish antennas are primarily used there by companies that are completely dependent on quick and accurate information dissemination, for example, finance banks, car manufacturers, and department store chains.

It is not unusual for a company to have a system consisting of over 1,000 VSAT dish antennas. Often, other functions are combined in the system, so that it is possible via satellite to control production and deliveries, also to hold video conferences and backup for the regular marketing network.

For the large companies, there is money to be gained.

"Usually the customer pays for the equipment, the capacity and the maintenance, that is, the entire system.

The market price in the United States generally lies 20 percent below the price of a cable system," says Lillemor Larsson.

The great difference between the U.S. and the European markets is the legislation.

A so-called open space policy is in practice in the United States which means that one is free to send up satellites, and private companies are allowed to own and use two-way satellite dishes. In most of the European countries, however, the telephone companies have a monopoly.

In England, for example, two-way satellite communications is only allowed for the telephone company, and in Germany there is a limit to how quick the transfer of information is allowed to be.

In Sweden, however, the law is liberal. It is, in principle, free to both send and receive signals if you have access to a satellite and you do not use reserved frequencies. But so far, there are no more than ten two-way VSAT dish antennas in Sweden.

"What is interesting is not the international communications. In order to reach a place in Sweden, you can already just lift the receiver and call without problems. What is interesting is that via satellite, you can cross the border," says Lars Bystrom, a technical director for Vesatel.

"A proposal will be submitted to the EC Commission soon about unified regulations. The way the atmosphere is now, it seems that the regulations introduced will be similar to those of Germany, although perhaps a little more liberal," continues Bystrom.

Currently, the interest in VSAT is high among companies that are establishing themselves in the East European market.

West German banks that have opened offices in East Berlin are standing in line for VSAT in order to bypass the ancient telecommunications network in East Europe.

A number of Swedish companies continue to try to get VSAT connections with East Europe through Vesatel. The problem is, even here, to get permission, but Vesatel expects that their first link to East Europe will be connected before the fall.

Today, Vesatel has approximately 500 VSAT dish antennas for one-way communications in 16 countries. The company has three American finance customers, but the large system the company has is the SIX-system of the Stockholm Stock Exchange which sends out changes from the Stock Exchange all over Europe.

**New Television Station Begins Broadcasts 15 Sep**  
*LD1709110990 Stockholm Domestic Service in Swedish*  
*0930 GMT 17 Sep 90*

[Excerpt] The long-awaited TV4 started broadcasting on 15 September.

TV4 is a totally Swedish channel, owned by businesses broadcasting through the tele-x satellite. Advertising finances the programs.

After five years' preparation and great publicity in the past year here in Sweden, TV4 has now started competing for viewers. [passage omitted]

**Kinnevik To Join International Mobile Phone Venture**

*90WT0132B Stockholm DAGENS NYHETER*  
*in Swedish 26 Jul 90 p C 3*

[Article by TT: "Kinnevik Joins New Mobile Phone Company"]

[Text] The administrative management of the Kinnevik company has reached a basic agreement with the U.S. Millicom company about forming an international mobile telephone company.

The principal owner of Kinnevik, Jan Stenbeck, also owns Millicom.

The new company will administer and operate mobile telephone systems in various markets outside Sweden. According to Kinnevik, the company will probably hold more licences and rights to run a mobile telephone system than any other company.

In Sweden, the minority owner of the company will be the Comvik GSM company which is the company that began the development of the so-called GSM digital system. Peter Kuhne, who recently left the deputy director position at Kinnevik's daughter company Comvik, will be in charge of the GSM system.

**TURKEY**

**Turkey To Provide Communications Systems to Azerbaijan**

*NC1409152890 Istanbul CUMHURIYET in Turkish*  
*11 Sep 90 p 11*

[Text] (Economic News Service)—According to an agreement that has been signed between the officials of Turkey's TELETAS [expansion unknown] company and Shamil Musayev, minister of communications of the Azerbaijan Soviet Socialist Republic, TELETAS will provide rural subscription radio communications systems [kirsal abone radyo sistemleri] to Azerbaijan to facilitate communications between large cities in critical areas, such as Nakhichevan and Gendzha, and small settlements. The same systems will also be used in the Nagorno-Karabakh Autonomous Oblast.

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